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INTERNET

MAY 1995, ISSUE 6 £2.50

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How to get connected to the Internet

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the thrill of anonymous email

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yes It runs with NetWare

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For starters

The latest facts, figures and trends, brought to you courtesy of INTERNET magazine.

What have you always wanted to know about the Net?

As ever, send to internet@computing.emap.co.uk

and we'll do our best to oblige.

High point of the month

Virgin and Radio 1 showed us how the new version of Netscape will radically change Web design.

Low point of the month

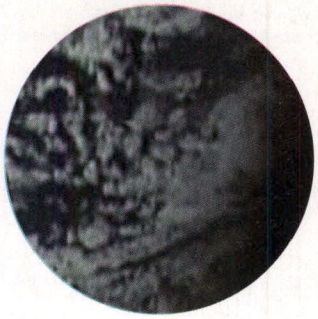
UK Internet companies appear determined to air their dirty laundry in public (page 7).

The Top 40

The chart below lists the most popular subject areas on our own Web site (http://www.emap.co.uk). It shows trends in usage, taken from the online version of our What's On guide (page 45).

Subject matter	Usage
1 Adult	755
2 Internet Tools	208
3 Weird!	144
4 Access Providers	135
5 FilmTV	122
6 Entertainment	100
7 Computer Software	95
8 Music	88
9 Art	78
10 Sport	75
11 Games	66
12 News	63
13 Computer Hardware	55
14 Business	53
15 Food and Drink	49
16 Travel	46
17 Weather	44
18 Banks	43
19 Books	43
20 Education	42
21 Publishing	42
22 Science	37
23 Employment	36
24 Shopping	34
25 Universities	32
26 Exhibitions	30
27 Health	28
28 Telecommunications	27
29 Ezines	25
30 Radio	22
31 Time	22
32 Transport	21
33 Government	20
34 Libraries	20
35 Museums	19
36 Finance	18
37 Real Estate	18
38 Reference	16
39 Legal	15
40 Politics	15

Just browsing



Yahoo is probably the busiest search tool on the Internet. Therefore, it is a good source of data on the Web browsers in use around the world. In mid February the Netscape browser Internet Directory and What's New pages were changed to simply point Netscape users to Yahoo. Yahoo in turn has a prominent home page pointer to the Random Yahoo Link script on which these statistics are based. So since this change, these statistics should not be interpreted as reflecting a random (that is, browser-neutral) sample of Netsurfers.
The tables below summarise which browsers were used by the 39911 hosts making 209081 accesses in the last 21 days to the Random Yahoo Link

What is the most popular browser
(No. of hits, overall percentage of total)

Browser	Hosts	%
1. Netscape (Windows)	20539	51.5
2. Netscape (Macintosh)	7269	18.2
3. Netscape (X11)	2662	6.7
4. Lynx	2189	5.5
5. NCSA Mosaic (Windows)	1800	4.5
6. NCSA Mosaic (X11)	1386	3.5
7. NetCruiser	1059	2.7
8. Other	822	2.1
9. IBM WebExplorer	600	1.5
10. NCSA Mosaic (Macintosh)	568	1.4
11. Air_Mosaic	523	1.3
12. MacWeb	295	.7
13. EI*Net	126	.3
14. Enhanced NCSA Mosaic	56	.1
15. TueV Mosaic for X	17	.0

Positive Thinking

A recent survey found the British to be the world's most negative people. That could hardly be said of the Canadians, when recently surveyed by Anderson Consulting, only 54 % knew about the information superhighway, yet 62.7% approved of it.

Quote of the month

"It seems clear that I am not the only one having problems with Demon."
Julian Sinclair
(Julian@jls1.demon.co.uk)

What does it cost?

Cost of access, per minute, to the Internet Services at Cyberia: 4.1p

Cost per minute, to listen to an answerphone message: 4.1p

Cost per cup, of cappuccino to drink while surfing at Cyberia: £1.50

INTERNET

May 1995, Issue 6

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cont

The developments offline are getting almost as interesting as the ones on the Internet itself. This month the bits really hit the fan within the industry – Pipex pulled the plug on Easynet, and in the process almost curtailed Radio 1FM's Interactive night; our last issue's cover disk brought a third of the UK POPs to their knees; and where the hell is Demon's Graham Davis? Rumours are he's been headhunted, but everyone's keeping very tight lipped so far. I was expecting a backlash from all the hype, but had presumed it would come from the punters – not the people controlling the market. Many of the smaller access providers must now be wondering how secure their own positions are. Some will be reconsidering backbone options, not wanting to follow the already lamented Genesis. The worst thing that could happen is that in-fighting within will have newbies thinking that the Internet is not as rosy as it's cracked up to be. We all know it's plain sailing once you get lost in cyberspace :-)

Neil Ellul, *Editor*

26 The thrill of anonymous email

There may be times when you'd rather stay incognito on the Net. Anonymous email makes this possible, but not just for the reasons you may think...

32 Cybercops and robbers

The Internet doesn't create new crimes, but it's a great medium for the traditional ones. We talk to the new breed of cybercop who are pounding the virtual beat.

39 Planning a trip using the Internet

If theres something your trying to find, let us know by email. This month our Cybersleuth investigates sources of travel information on the Net.

40 How do I get connected

Use our practical, step-by-step guide to getting started on the Internet.

16 Attitude problem

Paul Lavin tells his sad-but-true story of the ISDN line, the web site and the very large bill.

19 USA today

Daniel Dern, US-based Nethusiast explains the difference between all that software at your end, and the 'stuff' on the rest of the Internet.

21 Neighbourhood Watch

Although he's not that technical, even Ivan Pope has now started worrying about the distribution of bandwidth. Here's why.

30 Market watch – the missing links

To link or not to link, that is the question. Simon Waldman tells how to make visitors return to your site again and again.

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Case studies this month include Paddynet, with its mix of traditional Irish culture and original design, CDs from Classics World, and Denton Hall, the online law firm.

45 The UK's biggest guide to Whats On in Cyberspace
The **INTERNET** listings are now the standard source of critical information about what's out there. This month's new sites include Kodak, Lotus, FBI X Files, Tank Girl, and Virgin's Raft.

87 More news conversations you can join
From cricket to consultancy, our all-new selection of Internet newsgroups helps you find people you'll want to talk to...

92 Product reviews
This month we rate entry-level integrated software from InterCon and Frontier, a US Robotics chassis-based modem, and more.

98 Doing it with Demon
In a specially extended FAQ&A section, we offer a step-by-step guide to dealing with the UK's most popular, but hardest-to-use, Internet service.

107 The Complete Internet access provider guide
Which access provider is within local-call reach of your area ? How much do they charge ? To find out, turn to our ever-growing guide to more than 40 services.

Free CompuServe Software and Access 22

The world's biggest online provider is at last offering a full Internet service – and we've got the first-ever cover disk with all the software you'll need to get connected, plus a month's free membership and a £10 usage credit. Full details are on page 22. If the disk is missing from the cover complain to your newsagent. Or if it's damaged in any way, contact CompuServe on 0800 374971. For technical support, call CompuServe on 0800 289458.

Next month in INTERNET...

Coming in the next issue. An even-bigger what's on guide, even-more access providers, even-better newsgroup listings, and lots, lots more crucial information. Don't miss the next issue Place your order now – on sale 24 May

Regular features

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Pipex pulls the plug on Easynet; **INTERNET**'s cover disk brings down the Net; Virtual reality hits the Web; the online Casino; a follow-up to Radio 1FM's Interactive Music Night; and China gets connected.

12 Events
What you've missed while online, or are about to miss. We preview the Internet World International show to be held at Wembley; The Daily Telegraph's Internet Conference; and a report on what's been happening at Cyberia, the first cybercafe.

14 Messages
Sackloads of reaction to last month's Demon piece 50:50 for and against. Plus other things we must be doing right (and wrong).

34 Subscribe now!
You still have time to take us up on our special subscription price, it's just £19.95 an amazing saving of 33% off the normal £30 rate.

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PIPEX AND EASYNET PLAY DOWN DISPUTE

The decision by Internet backbone provider Pipex to disconnect Easynet, a Pipex reseller and the company behind London's Cyberia cybercafé, received widespread media attention at the end of March. The affair generated considerable acrimony between the two companies, but they have now declared a truce and want to let the matter drop.

Mick Head (BT), David Rowe (Easynet) and Keith Teare (Easynet)

Pipex cut off Easynet's Internet supply because it claimed Easynet had failed to pay for its Net connection. Easynet countered by insisting that it had paid its bills and that it had now signed a contract for Internet services with BT.

David Barratt, public relations officer at Unipalm (Pipex' parent company), said, "We are a business...and we have to do business properly...you have to pay your suppliers." But, he added, "I would rather the people that were cut off had paid their bills and all of this hadn't happened."

Easynet director Keith Teare, agreed that "We would see the publicity as entirely negative for the Internet as a whole and for both parties." However, he stressed that, "For our users [the new contract with BT] represents a technical advance in that we now have a 2Mb line into our operations centre. With Pipex it was 64k."

The affair raises the question of whether users ought to be worried about the possibility of backbone providers disconnecting the resellers they buy services from. Barratt said, "As a commercial service provider you cannot pull the plug because you would be in breach of contract." However, he counselled that "Users should certainly choose their service providers with care."

Keith Teare of Easynet said, the Internet "depends on global co-operation. If that breaks down, people suffer, but we're very much in the business of not allowing that to happen."

VIRTUAL 3D GRAPHICS BECOME A REALITY

Silicon Graphics (SGI) has announced Webspace, a viewer that will allow browsers to interact with live three-dimensional Web pages. This added dimension does not require a high powered computer nor an expensive high bandwidth Internet connection.

Co-developer Template Graphics Software will supply Webspace for all non-Silicon Graphics Unix, Windows and Macintosh systems.

By adding Webspace to a browser such as Netscape or Mosaic, users will be able to fly through 3D environments such as libraries, museums, resorts and fantasy worlds. In business applications, remote users can inspect 3D models of products from online catalogues or visualise complex financial information such as stock market trends in 3D.

"3D presents a powerful new paradigm shift that will change the World Wide Web," said Howard Rippiner, spokesman for Silicon Graphics UK. "The WebSpace viewer will make 3D accessible via the Web for a wide variety of users."

The SGI WebSpace viewer is based on Virtual Reality Modelling Language (VRML), an open, platform-independent file format for 3D graphics on the Internet. VRML, which is similar to Hypertext Markup Language (HTML), compactly encodes computer graphics for Internet transmission. As with HTML, hyperlinked objects can be used to navigate to other VRML documents or Web pages. VRML is scalable so that as users navigate through virtual worlds and approach objects, greater levels of detail emerge.

So far, 17 companies and organisations support VRML, including CERN, Digital, Intergraph, NCD, NEC, Netscape, Oki and Spyglass. Beta versions of WebSpace will be available by the end of April for SGI workstations with Windows and Mac ports to follow. Non-supported versions will be available free from several FTP sites.

Template Graphics Software will also offer fully supported commercial versions but the price has not been announced. More information can be found at http://www.sgi.com

NET OF FORTUNE

When the first Internet casino goes on line on May 15, it's odds on that US law enforcement officials will be keeping a close eye on the operation and its users, even though the gaming service won't be based on US soil. The Online Offshore Casino and Sports Book is being established in the tax haven of the Turks and Caicos islands, where gambling is legal.

As gambling is not legal in most US states, the question of legality hinges on an interpretation of whether the bets are placed on the islands, in the computers and homes of the projected clientelle, or on the servers that link customers and casino. US law prohibits placement of wagers across state lines and through the country's communication networks.

You will find the Internet Casino at http://www.casino.org/cc

News in brief

Granada is launching a new series, *The Programme*, in an attempt to demystify the world of computing. Presented by Anthony H Wilson and Cat Lewis, it will feature a regular Internet slot hosted by Cyberia's Eva Pascoe. The first of five shows will go on air on 27 April at 10.40pm, throughout the North West.

Duracell's latest promotional campaign features a computer game staring its trademark character, the pink battery-driven rabbit. The game will be available over the Net. For more information, send email to pdcooper@adware.co.uk

German media giant Bertelsmann AG has entered an agreement with America Online to extend its connectivity to Europe. AOL will be launched in Germany, with France and the UK added soon after.

Spry, the new Internet division of CompuServe, issued 15,000 free Mosaic diskettes to basketball fans during the NCAA Final Four held in Seattle in early April. This coincided with its deal with Starwave to establish a custom online sports network with instant WWW software.

Sun Microsystems is developing freeware which promises to enrich Web pages. Hot Java, its contribution to the cluttered browser market, offers real-time interaction and the dynamic update features introduced by Netscape's 1.1 beta. The software will be available in June, initially for Microsoft Windows 95 and Macintosh system 7.5. In the meantime, Sun has shipped a limited amount of the software for use only on Sun workstations. See http://java.sun.com/

News in brief

In a test case for the Internet, a Western Australian court found a state government clerk, David Allen, guilty of possessing child pornography downloaded from the Net, even though the images were only stored on his hard disk for a few minutes. Despite having paid £15 to subscribe to the paedophilic Mexican BBS, Allen claimed he was surprised when the explicit images appeared during an introductory download. This was a test case and no conviction was recorded, but Magistrate Ivan Brown advised modem owners to take note.

US company Forester Research predicts that consumers are starting to shift from proprietary online services, such as CompuServe, to the Internet's World Wide Web. It estimates that users of this type of service will increase from 4.7 million today to 10 million in 1997. It predicts that by 2000 there will be 6.7 million proprietary users and 22 million on the Internet.

More than 35 financial futures groups have agreed to join Investment News Online, a clearing house for industry information. This includes 14 commodity trading advisors; 21 trade publications and advisory services; Lind-Waldock, the largest futures discount broker in the US; the International Swaps and Derivatives Association; and the Asia-Pacific Managed Futures Association.
The Web site will provide access to futures exchanges and their members, managed futures firms, futures commission merchants, industry magazines, newsletters and news services, as well as prices, charts and research libraries.

FREE OFFER EXTENDED

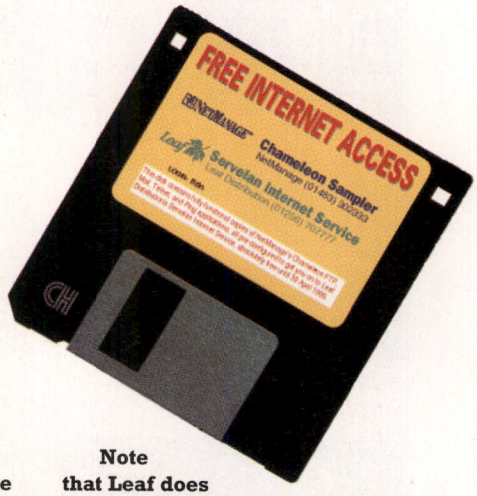
Apologies to all those readers who tried to get on to Leaf Distribution's Internet service – and failed – using last month's cover disk. The response was overwhelming, many times greater than any previous magazine Internet disk. Because of the early problems readers had getting on, Leaf agreed to extend the free access until 31 May.

As well as improving on the original offer, we feel you're owed an explanation about what happened. The service offered is being provided to Leaf by Pipex, regarded by many as the UK's foremost supplier of Internet connectivity, and the company behind most of the free-access offers that have appeared in UK computer magazines.

Leaf is a 25%-owned subsidiary of Pipex-Unipalm.

According to Pipex, the usual response to access promotions – even from magazines with more than twice INTERNET's 50,000 circulation – has been measured in hundreds. We got thousands in the first few days, and the enormous success took everyone by surprise.

Requests for authorisation at the Point of Presence got to such a level the the modems could not stand the pace and quietly fell over, disconnecting INTERNET disk owners, and paying corporate customers alike. Within a few days, Pipex had carried out the first stage of major upgrades to its network. If you still have last month's cover disk, why not give it another try? Phone Leaf on 01256 707777, and you will be manually switched on. Have your login number ready – it's the one printed on the disk – then follow the instructions in last month's issue.



Note that Leaf does not support Netscape Navigator or Mosaic. To get either of these, use the FTP program on the disk (making sure it's been set for Binary download) to connect to either ftp.mcom.com, ftp.src.docs.ic.ac.uk **or** ftp.ncsa.uiuc.edu

For information about FTPing, see page 46.

PAYING THE PRICE TO FIND OUT WHAT REAL USERS WANT

A US publishing firm claims that, by June, it will have the most accurate statistics to date on US Internet users. California-based O'Reilly & Associates, in conjunction with the market research firm Trish Information Services, has released part one of a three-phase survey defining the preferences of US Internet users.

The study aims to estimate the number of current Internet users in the US, as well as their demographic profiles. Of the two thousand-odd Internet users interviewed in the first phase, 87% had completed college or higher degrees, 68% had estimated annual household incomes of $50,000 or more, over 50% will use online services to purchase music as well as software, and 12% are using the Internet to assist them in purchasing a new car.

Project manager Florence Kanuk said that for $25,000, "Corporations may have access to the survey results. In addition, participating companies can add questions specifically relating to their industry. Information gleaned from the survey could be crucial to the success of many online ventures, particularly in the area of electronic commerce. A lot of people are developing Web sites or a presence on the Internet, but they don't know who they are talking to.

"People are spending a lot of money on sound and graphics, when the average user may not care."

Further information can be obtained from Jenny Shore at O'Reilly & Associates, phone 0101 510 883 7233, or look at http://www.gnn.com

SCENIC VIEW FROM THE TOP

Netscape's Jim Clark

Jim Clark, who left Silicon Graphics more than a year ago to form Netscape, asserted that video across the Internet will become common as access bandwidths increase. He envisages the Net taking on the role of a multimedia service delivery network. He likened the Internet's TCP/IP protocol to an "electronic equivalent of Esperanto," as it runs on all network types and has capacity far beyond today's average 14.4kbps. That speed "constrains the Internet to pictures and text," Clark said, "but as bandwidths increase, the system will move to CD content, video conferencing, full interactive video and even HDTV."

Clark was adamant that the most important factor in the commercial acceptance of the Internet is "being able to move money" He added, "The only way to get money is through security," and predicted that "within a year there will be real transactions over the Internet."

RADIO 1FM'S NIGHT TO REMEMBER

As predicted in last month's INTERNET, Radio 1's Interactive night, which married the Internet with live radio, was the biggest media event of the year so far. Listeners were treated to a non-stop, three-hour amalgamation of music and interviews with Net luminaries such as William Gibson, and artists such as Peter Gabriel, the Beastie Boys, the Residents and Belly. The show was co-hosted by Jo Whiley in the studio, and Steve Lamacq at Cyberia, with Blur's drummer, Dave Rowntree, in live IRC conversation with listeners throughout the evening.

Net gurus Matt Black and Wavey Davey Winder expanded some of the issues as they arose, covering many other technology developments in entertainment as well, including a section on virtual reality where listeners finally got to know the meaning of teledildonics. The show concluded with Orbital playing live from their studio and transmitted to the station via ISDN – a pity that no-one explained ISDN.

The show's Web pages, featuring samples, and a downloadable album of unreleased tracks, were swamped with over 70,000 hits during the show. Eventually, BBC Networking Club's technical staff had to turn off the monitoring software to improve performance.

Producer, Nick Ware, summed up the event, "We were amazed at the response to the programme. We have had lots of requests to do more, and there will be a follow-up. I'm hoping that there will be a bigger BBC presence on the Web, and that we can make more genuinely interactive events. I'm open to suggestions as to what they might be."

ONLINE CHINESE DETECTIVES

The Taiwanese government's phone company has agreed to issue licenses for private Internet providers to complement services offered by the DGT, CNET (the Institute for Information Industry) and the Ministry of Education.

Carl Nicolai, president of Taipei's TranSend Internet Co, said that government agencies "are supportive in spreading Internet access to all who want it in Taiwan, and are unlikely to close down competing private service providers." Singapore's recent attempt to control the Internet, according to Nicolai, is a response "to what they don't understand and can't control." Last month seven of Hong Kong's eight providers were shut down in raids, over disputed licence fees. Police later claimed it was not because of the $200 licences, but due to hackers operating through the services. Taiwan Information is available at **http://silkroute.com/silkroute/asia/rsrc/country/taiwan.html**

SECURE DATA TRANSFER

A new line of software, from Premenos, aims to secure electronic data interchange (EDI) using the Internet and other TCP/IP networks. TEMPLAR, released at the end of April, allows users to establish secure, peer-to-peer EDI, eliminating the need for a third party value-added network (VAN). It serves as a layer between the EDI translator and the mail subsystem.

Dan Federman, Premenos' president and CEO, said the switch from VANs to open networks like the Internet will result in more affordable EDI. "By sending the information over an open network, you get pricing based on the bandwidth instead of what the provider charges you," said Federman. Previously, security was the most significant obstacle to using TCP/IP networks for EDI. To counter this, TEMPLAR's system uses a randomly-generated data encryption standard (DES) key to encode outgoing transmissions. Trade partners are provided with a public DES key. When these keys are used to successfully decode a transmission, it confirms the identity of both parties. To guarantee the information has not been altered enroute, the system compares the 'hash code' of the original to the delivered document. If it has been altered, the code will not match and both parties will be notified. It also permits non-repudiation of both transmission and receipt. The system supports Microsoft Windows 3.1 or later, and will operate on Unix systems, including AIX/6000, HP/UX, Sun/OS and Solaris.

EDI on the Net at http://www.templar.com/

News in brief

An Internet auction of pop music poster art and memorabilia will be held to raise money for the Save the Earth Foundation. Artists contributing include Billy Ray Cyrus, Eddie Murphy, the Eagles and Talking Heads. Proceeds will be used to attempt to clean up the planet. Details are at http://www.ccurrents.com/cc

VocalTec, which recently linked with Cirrus Logic and Motorola, has established a new Internet Relay Chat (IRC) network to provide customers with better access to its Internet Phone. The new network can be reached at iphone.vocaltec.com or iphone.pulver.com, with more information at http://www.vocaltech.com, or by emailing majordomo@pulver.com with the message subscribe IPHONE

Network Computing Devices has announced Mariner, a complete Internet navigation package for Windows. It provides a unified user interface to the WWW, email, Usenet, IRC, FTP, Gopher and Telnet. Incorporation of OLE 2.0 drag-and-drop functionality within a familiar Windows File Manager paradigm allows you to drop Net pickings into related folders. Mariner's navigation tool dynamically creates a travel map for later retrieval and includes its own TCP/IP stack, as well as providing an Open Secure Transaction Architecture (OSTA) to support multiple security methods, including SHTTP. A 60-day trial copy will be available in June via anonymous FTP at ftp.ncd.com **Further information at** http://www.ncd.com

News in brief

The Royal Air Force Careers Information Centre now has a home page on the Web. Recruitment information is available at http://www.open.gov.uk/raf/rafhome.htm

Goodyear Tire & Rubber, the first online tyre maker is impressed with the response to its Internet and CompuServe presence with over 100,000 visits since it opened last December. Drivers can view and select tyres for their vehicles, get prices and directions to their nearest dealer and find answers to FAQs about tyre maintenance. On the Web, Goodyear is at http://www.goodyear.com or at Go Goodyear on CompuServe.

Senator James Exon, a Nebraska Democrat, has introduced a bill to extend telephone usage laws to cover computers and other telecomms devices. It dictates that anyone using a computer to "annoy, abuse, threaten or harass" anyone else is liable for fines up to $100,000 and a jail sentence of up to two years. Proposed as an amendment to the Communications Decency Act of 1934, the legislation would penalise anyone who "makes, transmits, or otherwise makes available" words or images deemed offensive over any device. Penalties could also apply to "filthy" material regularly exchanged by consenting adults.

INTERNET's news briefs are produced with the assistance of Individual Software's First! email service. For a free trial, contact Ted Howard-Jones at thj@individual.com **or tel 01491 638123**

individual
SPREADING THE POWER OF KNOWLEDGE

INNER CITY CRIME

INTERNET's John Elliot shows the UK's financial regulatory authority – the Securities and Investments Board – how its legislation is unwittingly creating online criminals.

The financial service industry exists to sell investments such as unit trusts and pensions. To make sure uneducated investors don't lose their money to dubious companies, the industry is tightly regulated. In the UK it's the Securities and Investments Board (SIB) that's responsible for drafting and enforcing these regulations. A quick look at INTERNET's What's On guide will show that financial services are already actively using the Net to provide information and attract customers. I asked the SIB how it is handling these electronic advertisements.

Its first response was "the Internet, what's that?" I explained what it is, what's available in the UK and where I believed problems could arise. Section 57 of the Act governing the advertising of financial services states:

"...no person other than an authorised person shall issue or cause to be issued an investment advertisement in the United Kingdom unless its contents have been approved by an authorised person."

If you take a look round the Web you'll see many sites that are dedicated to selling investment products. Some pages require you to submit your details, and even after doing so, with a UK address I still wasn't denied access.

After further research I concluded that many companies on the Web are certainly not authorised in the UK.

The Act is fairly specific as to the treatment offenders can expect, ranging from two years in prison to substantial fines.

As the SIB doesn't have Internet access, I printed out pages from financial services' Web sites and wrote, explaining how I accessed them from the UK. Our conversations with the SIB representatives revealed that they actually had no idea what the Internet was, no knowledge of the amount of financial services advertising on it and certainly no policy on the subject. Although no one would be quoted "on the record" it was obvious that they agreed with our analysis of the situation – that the Act was being broken – but they wanted to spend some time considering their best course of action.

As many more companies start providing information on the Web, this type of existing legislation will need to be modified to cope with global access. It's not just the UK's SIB that has to address this issue; if a UK-based unit trust company published information on the Web, it would certainly break the rules in other countries. Interestingly, Networth are about to start a service for UK investors. It will try to bar US residents, to avoid trouble with the US Securities and Exchange Commission (SEC), by looking-up host names, but it's unlikely to keep out the determined.

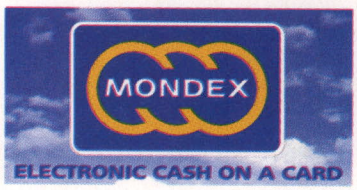
Are financial companies breaking the law? (http://www.fid-inv.com/)

SMART CASH ALTERNATIVE

Information about Mondex, the electronic cash smartcard, is now available on the World Wide Web. Mondex is being launched in the UK as a joint venture by NatWest, Midland Bank, and the Bank of Scotland. BT will commence the service in Swindon this summer, involving 40,000 people and 1,000 retailers.

It is being introduced as a global alternative to physical cash for use in shops, and as a future payment mechanism in a wide variety of areas such as the Internet and multimedia services. Franchises for the use of Mondex in Hong Kong, Indonesia, Macau, the Philippines, Singapore and Thailand have already been announced.

More information about Mondex can be found at http://www.mondex.com/mondex/home.htm



FARMER SELLS HIS SOUL TO SATAN

SATAN (Security Analysis Tool for Auditing Networks), a software package for uncovering security holes, is now freely available over the Internet. But many observers fear that hackers, along with legitimate users such as systems managers, will find the software valuable. SATAN was created by Dan Farmer, an employee of Silicon Graphics, or at least he was, until he announced his plans to freely distribute Satan on the Internet. "It is a tool for getting information. Information is power, and power can be abused," conceded Farmer. "Both legitimate people and underground people will see SATAN as a method to get what they want."

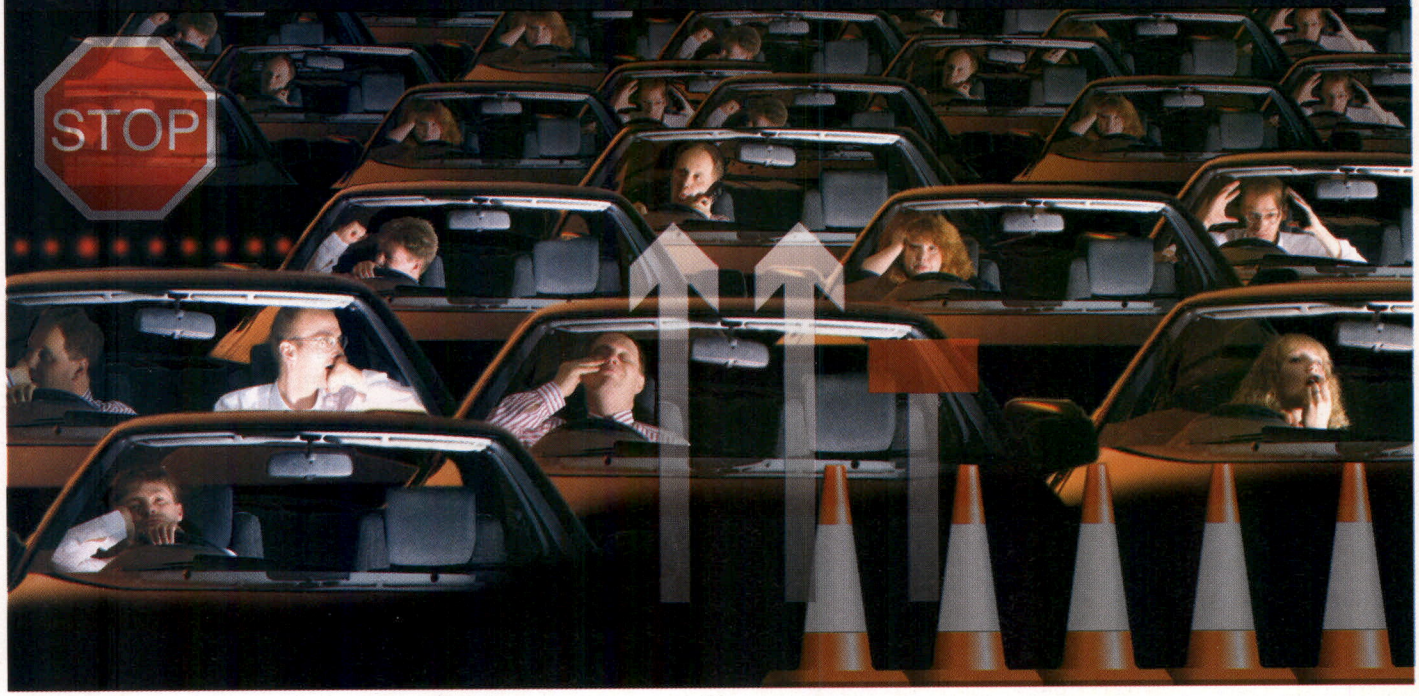
The tool gives a fast detailed run-down on any system's security flaws. It runs on Unix with a Web browser interface, but can find faults in any platform. The software uses an inference engine with a set of rules about TCP/IP systems and security.

The Lawrence Livermore Laboratory has already taken defensive steps by deploying Courtney, a software angel.

SATAN is available at http://gatekeeper.dec.com:80/pub/net/

THE INFORMATION SUPERHIGHWAY

DON'T GET CAUGHT UP IN THE TRAFFIC



Heading out to the information superhighway could end up as just another traffic queue unless you choose the right route.

OUT OF CHAOS COMES ORDER

NOV*IX for Internet from Firefox is the first true LAN-to-information superhighway connect product for NetWare users. IT Managers get security, management and control of the Internet access whilst users get commercially supported Internet access tools at their fingertips.

So don't get stuck up a communication dead end, let Firefox get you moving.

For information call the Actionline on
0121 703 3020
or return the coupon by post or fax on 0121 703 3050

NAME:_____
POSITION:_____
COMPANY:_____
ADDRESS:_____
_____
_____ POSTCODE:_____
TEL:_____
IM/SH/0595

yes It runs with NetWare

FIREFOX
MANAGED COMMUNICATION

FIREFOX INTERNATIONAL, THE COURTYARD, WARWICK ROAD, SOLIHULL, WEST MIDLANDS, B91 3DA

Events

EXHIBITIONS

Internet World International '95

Wembley Conference Centre
May 16th – 18th

If 1994 was the year of the Internet all over the World, then we're betting that 1995 will be marked as the year the Internet arrived as a mass medium – a vehicle for the delivery of real media – the stuff pundits call 'content'.

If I might offer a premature year's end summary, I think we'll remember 1995 as the year that Knight-Ridder spent ten million dollars getting the San José Mercury News onto the Web, and the year that the august Daily Telegraph stepped out with a handsome 'Electronic Telegraph'. The benighted O.J. Simpson colonised the Internet almost as fully as the real-world media. It's against this background that the Internet World International '95 conference and exhibition, will try to lay out the options for the next year, and indeed the next decade, on the Internet.

The Exhibition

Internet World, which takes place at Wembley Exhibition and Conference Centre from May 16th - 18th, will bring together 45 companies from the Internet community.

The organiser, Learned Information, is billing the event as: "A conclusive statement on the Internet and its phenomenal success story."

Users and providers of information, publishers (on the Net and in traditional printed form), and those involved in the broadcast media and music business, advertising and public relations, sales and marketing will join other Net surfers to learn more about every aspect of the Internet and how it will affect them.

The Exhibition comprises the leading UK companies and organisations who provide hardware, software and services relating to the use of the Internet. Visitors can enter the exhibition free of charge to see what the latest technology has to offer and to benefit from special 'show only' promotions.

Event director, Jean Mulligan said: "Just as the Internet reaches the turning point where technology becomes a medium, visitors now have the chance to learn what all the fuss is about in the simplest way possible, by meeting directly with those who are at the forefront of the Internet Revolution from around the globe."

The exhibition is also intended to give visitors hands-on experience of the Internet. To this end, The Net Works room, held alongside the exhibition, will be packed with computers which are hooked up to the Internet.

The Conference

The conference has been a landmark on the Internet scene for three years now. This year however, it'll be very different. The academics and the technical folk will be taking a back seat to the practitioners – the emphasis is on the Net as a functioning media tool. Whether the Internet is the prototype for some grander broadband superhighway or not, our bet is that the lessons learned today by pioneering media businesses will shape the interactive future.

Day One

The whole of the first day is devoted to publishing. Jim Clark, from the astonishingly successful Netscape, will set the tone for the event in his keynote paper and during the morning we'll hear from Eamonn Wilmott, whose pioneering PowerPC News was the first online trade paper in Britain.

In the afternoon, Ivan Pope should demolish a few Internet urban myths by describing the promise of the 'Daily Me' – customised publishing for the millennium. In a panel discussion, **INTERNET**'s own Roger Green, and speakers from The Guardian and The Telegraph, will debate the future of publishing.

Day Two

Wednesday's morning theme is online payment, and speakers from all the major players in the field will describe their strategies for building credibility and security in digital cash standards. David Chaum will be describing his ultra-secure accounted ecash standard – Mondex, First Virtual and Netscape will describe their competing standards.

On Wednesday afternoon, Jon Luini from IUMA and Ricky Adar from Cerberus will talk about schemes for delivering CD-quality music, and demonstrate two conflicting models for the protection of copyright in an online environment.

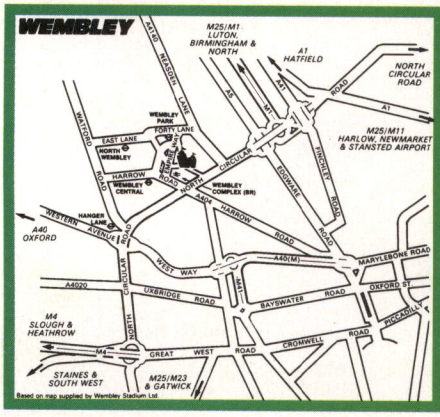
Day Three

Thursday morning is devoted to the Web itself. Yuri Rubinsky will describe the promise of SGML for the Web. Dave Ragget will outline the future for Web applications and we'll learn about the W3O and its plans to build standards.

Thursday afternoon is divided into two tracks. There's a session on online advertising and speakers from the emerging interactive advertising industry will show the way forward for advertisers. Rick Boyce from Hotwired will be showing the rest of us how he makes two million dollars a year from advertising alone.

The other track is on the theme of the Internet's infrastructure and responses to the strains that often see12 m likely to tear it apart. Judy Gibbons from Microsoft will talk about how Microsoft Network can save the Internet. Rob Banforth from Sun Microsytems will be discussing the increasingly viable option of using the Internet to build secure, private virtual networks.

The protocols that will take the Net into its next phase will also be discussed.



How to Get There

Internet World International '95 will be held at Wembley Conference and Exhibition Centre.

The M1, M4, M40, M25 and major trunk routes link Wembley to Central London and the rest of the UK, and parking is available for over 6,000 cars. Three underground lines (Jubilee, Bakerloo and Metropolitan), and two BR lines service stations in the vicinity, including the on-site station, Wembley Stadium. Heathrow, Stansted and Luton airports are within reach. A free shuttle bus will be running between Wembley Park station and Wembley Conference Centre.

Event Information

To contact the event organisers, Learned Information, telephone 0186 573 0275, or email conferences@learned.co.uk. The full conference programme can be found at http://info.learned.co.uk:70/0h/conferences/internet.world.95.html

The event also includes a series of pre-conference tutorials, taking place on Monday 15th May.

These, like the Conference, are subject to a registration fee. Full details can be obtained by contacting Learned Information.

Opening Hours

The Exhibition and the Net Works are open Tuesday and Wednesday 16th and 17th May from 10:00am until 6:00pm, and on Thursday 18th May from 10:00am until 5:00pm. The Conference is open from 9:30am until 5:30pm on Tuesday 16th, 9:00am until 5:30pm on Wednesday 17th and 9:30am until 5:00pm on Thursday 18th May.

Internet World International '95

List of Exhibitors

Addison-Wesley Publishers
Allied Telesis
B H Blackwell
BBC Networking Club
Cityscape Internet Services
Compuserve Information Exchange
Compuserve
Computer Manuals
Demon Internet
Domino Systems
ElectricMail
Ethix
Eunet GB
IBM Global Networking
Integralis
International Thompson Publishing
Internet Magazine (Emap)
IP7
Leaf Distribution
Learned Information
MatriX Publishing Network
Mecklermedia
.Net Magazine (Future)
Netmanage
Paragon Software
Pipex
Purple Internet Productions
Sea Change Corporation (Europe)
Simon & Schuster
Soft Options UK
SoftQuad
Sun Microsystems Computers
SW15 Software
Systematic Upgrade
The Internet Training Company
The PC Bookshop
Turnpike
U-Net
UK Internet User Group
Webmedia

BUSINESS ON THE INTERNET

Internet Conference

The Daily Telegraph's Internet Conference, in association with **INTERNET** magazine, has a tight focus on business applications and will cover: improved efficiency and cost savings; advertising and sales; security and payment; costs and getting connected.

Speakers include: Ian Taylor MBE, Trade and Technology Minister; **INTERNET**'s Roger Green; Michael Strangelove, author of How to Advertise on the Internet; Mick Head from British Telecom; Mark Sherwood-Edwards from solicitor Simon Olswang; and Detective Inspector John Austen of the Metropolitan Police.

Some of the seminar topics for the event are: what is the Internet and what can it offer you?; what's out there? - a guided tour of Cyberspace; new approaches and new ventures; legal issues and commercial issues; security - what do you risk?; should you use the Internet for your core business?; and how much money can you save?

Details: *The Daily Telegraph Conference takes place on 4 May 1995 at the Earls Court International Hotel, 17 Lillie Road, London SW6 1UQ. Tel: 0171 490 3318. Fax: 0171 490 3319.*

Scene at Cyberia

this month... Cyberia's explosive growth is attracting interest from all quarters. Even French fashion guru extraordinaire, Jean Paul Gaultier, has been spotted surfing the virtual Louvre, whilst loaded on Cyberia's potent brew. Table tops were temporarily transformed into dancing podiums at the launch of Paddynet on St Patrick's Day. The Celtic Cyberian connection will be further strengthened in April when Cafe Cyberia Edinburgh opens its doors.

An ad agency party on March 22 marked the debut of INTERNET's April issue, the world's thickest Internet magazine ever published. March 24 saw the opening of the first franchised branch of Cyberia in Kingston (email: hunter@cyberdiner.easynet.co.uk). The launch party was a huge cyburbian success, with Cyberman greeting the guests with bubbly.

BBC Radio 1FM's Interactive Evening, on March 26, featured Blur's Dave Townsend IRC-ing live from the cafe on possibly the fastest moving IRC chat line ever! Comedian Rob Newman joined the celebrations and shared some surfing tales with listeners.

A few days later Trip Media computer games guru David Collier impressed a crowd of concerned parents at Internet 2000's Cyberparenting event by urging education software programmers to improve gameplay. Ultralab's Richard Milwood predicted that the growing use of the Internet will increase the time children spend learning, (presently just 7%!), especially with Internet at home.

Watch out for a live installation coming in May with Cyberia's very special art exhibit – Woman in Red – and the upcoming fashion show 'Dress To Download'.

Yours, **The Cyber Snooper**

Details: *Cyberia offers public Internet access, with help if needed, at 39 Whitfield Street, London W1P 5RE, for a mere £2.50 per half hour. Thrice-weekly training sessions are £25 for two and a half hours. There's a women-only session every Wednesday. Tel: 0171 209 0982 or email* keith@easynet.co.uk

@Messages

Don't just tell us how good the magazine is, let us know what you'd like to see in it. We also want to hear how you think the Internet should develop. Send to letters@computing.emap.co.uk

Thank you for your excellent magazine and the brilliant software provided with the current issue. I must admit some frustration with the Internet in general in that it is so US dominated. I have been trying to find information on the Net and keep coming up with American listings. I hope the UK will get its act together soon and provide useful information for those of us on this side of the Atlantic.

Thanks and keep up the good and very interesting work.

Geeves Silva
Geeves@cix.compulink.co.uk

This is the first time I have written to any magazine, but I feel I had to get my fingers tapping to let you know how much I enjoy reading your excellent publication. I thank all concerned.

I wonder if I could ask readers if they could inform me of the location of any shareware text based games for my daughter.

She is 13 years old and totally blind, she has a Laptop PC with a Voice Synthesizer. She has one text based game that she has practically worn out, but thoroughly enjoys playing. I would like to get her another. Many thanks,

Stuart Schofield
stuart@extronic.zynet.co.uk

What a great magazine! As a "newbie" old enough to know better, I enjoy using email for business purposes. Clients also find it easy to use. After all, you can send and receive messages at any time of the day or night. It's great!

Please keep up the good work. I especially liked the Inside Usenet feature.

Peter Stutz
pstutz@ipm.win-uk.net

I am a new user on the Internet and, I guess, like most others I am a bit lost. I think an article on the most basic skills would be very useful to many like myself. A review of the features of popular packages would also be a good idea. The use of even simple jargon is self defeating to the novice.

I should also say that your magazine is the best of those I have seen so far.

Phil Wilson
100575.1502@compuserve.com

Neil Ellul replies: *We do our best to make the getting started features as basic as possible – you'll see plenty more over the coming months :-)*

Thanks for the great magazine! Being new to comms and the Internet it makes a change to read a magazine that has something in it for people like me!

The article on ISDN in the April issue was very interesting, the problem of bandwidth seems to be about to become a very big issue. ISDN may give home users a faster link into the Net, but surely fibre optics would give much better connection speeds and hold more data than ISDN.

James Smith
smith@sentilel.demon.co.u

I just had to write and congratulate you on what is now an excellent magazine. The format is perfect. I urge you not to introduce separate sections for the obscure machines - Z80's, lawn movers connected to modems etc

I was particularly pleased to read your references to Demon in the April edition – its been the only way of finding out what has been going on.

Graham Willson
Graham@demiwolf.demon.co.uk

I am still reeling from the effects of deja vu after reading Tim Dawson's article about Demon. I chose Demon for the same reasons, and spent six hours downloading the Winsock software – I did at least learn from this that I needed a faster modem. I then spent eleven frustrating hours just trying to log in, interspersed with bursts of trawling through the copious help files convinced I had somehow missed the bit that explained how to get started.

Finally, I decided to alternate login attempts with calls to the support-line, in the hope that sooner or later one would be successful – the login won, roughly 45 minutes later, for no reason that I can fathom.

Incidentally, this is my first time of buying INTERNET. I've read only about a third of it so far and it's already filled a good few gaps in my knowledge, so thanks very much!

Rob Young
rob@robyoung.demon.co.uk

I believe that Mr. Dawson's article on Demon Internet services was unfair at the very least. While I agree that there are certain problems setting up Demon (especially under Windows) I suffered none of the problems Mr. Dawson had.

When I set up my account by telephone I had a very helpful sales person who knew what a nodename was. I can only assume that Mr. Dawson was very unlucky. Demon is not perfect, I am the first to admit this, but for £10 per month what do you expect? In short the benefits I have gained from being on Demon have far outweighed the disadvantages.

James Gregory Quinn
jgquinn@quinn.demon.co.uk

I am writing to endorse your correspondent Tim Dawson's comments about Demon Internet. As a relative newcomer to the Internet I have found the experience to date somewhat daunting. CompuServe had been my original choice but due to the lack of Web access, I decided to switch to a different provider, which in the end after some consideration was Demon Internet.

I sent for some further information and was not particularly perturbed that it was somewhat sparse in content. I faxed Demon and some two days later they responded, again the information received was of a spartan nature.

Don't get me wrong, I am not attacking Demon for the sake of it, with a well designed manual I probably would not have any gripes at all.

Congratulations on a well thought out and readable magazine.

David Roantree
David@gloater.demon.co.uk

As a fairly new user of Demon I feel that some comment must be made regarding Tim Dawson's rather negative article in the April issue.

Demon is my second choice of 'provider' and is, in my humble opinion, the best. They supply adequate documentation, a friendly, although sometimes hard to get help-line, and a full suite of programs for either DOS or Windows users. I like the magazine, this was the first time I'd seen it. If it continues in this vein I may well cancel my subscription to shhh (don't say it here) magazine in favour of yours.

George Wood
george@highrise.demon.co.uk

RTFM is Netspeak for Read the Flaming Manual. Two of your contributors in the April edition give information which appears at the very least misleading. Firstly, Paul Lavin claims that it takes 12 hours to download a 14Mb

ILLUSTRATION BY LINDA SCOTT

file; what sort of connection is he using. My equipment is pre-historic but I can download a 4Mb file of similar nature in 40 minutes; perhaps he meant 120 minutes (equals 2 hours).

Secondly, Tim Dawson and the trials and tribulations of Demon. I'm also a newbie with the Internet, subscribing to Demon. All the books say that a 2400bps modem is unsuitable so he just has himself to blame if it takes a long time.

Thanks for the articles; if it puts just a few people off it'll make life easier for the rest of us.

David J. Brown
David@dbrown.demon.co.uk

Tim Dawson's prolonged agony while trying to get up on the Net wrung tears from my heart. Before herds of intending surfers rush screaming into the hills or take up fishing instead, however, I should tell you that - happily - things don't always have to be like this. I signed up with my nearest provider, Aladdin in Southampton. They sent me a lot of software. I loaded it. It worked. I sent my first email message the same evening, collected a lot more software by FTP the next day, and was looking at Playboy's Dream Girl for April the day after that. Incidentally, people, there's a slight snag here. See, a Web page has kind of a low ceiling, right, what with all those bars and icons and things, so you only get to see all of a Dream Girl if she happens to be horizontal. With Vertical Dream Girls it's top half or bottom half, take your pick – I don't see how this is going to replace paper.

Maybe the moral is: pick a friendly local provider where you get to talk to the proprietors in person. I'm still amazed that all this stuff works, but it does; and getting to grips with it isn't that hard. Really.

Martin Woodhouse (aka "Doc")
doc@aladdin.co.uk

Many journalists writing about the Internet have serious technological deficiencies – but Tim Dawson has more than most. The software is 'incomprehensible' – but don't read the documentation, blame Demon. He can't understand the term 'domain', poor dear. But when Demon try to explain it to him, he goes all sulky and blames the help-line staff.

Tim ('Gump') Dawson follows Demon's instructions 'meticulously' but fails to manage an FTP. His text files get 'jumbled'. After sending and receiving a considerable number of files, I've never had one 'jumbled'. Tell us how you did it. Mr D has no place in a magazine for Net users.

Maurice George
mauriceg@mauriceg.demon.co.uk

Neil Ellul replies: *The response to the Demon article last month was overwhelming – far too much to publish it all – but the consensus was 50/50. Half of you love Demon, the other half find it a nightmare.*

I thought it significant that Paul Lavin's article should appear in your April issue. For it was a joke, wasn't it?

Dave Harris
<this .sig under construction>
djharris@crepello.demon.co.uk

I think Paul Lavin's article in the April issue was one of the first signs of a 'class attitude' developing about the Internet. When something new and trendy appears, a group of cognoscenti always emerges to hog the benefits for themselves. Paul's articles promote debate, that's good. Well done!

Graham R. Goater
graham@goater.dungeon.com

Send your messages by email to letters@computing.emap.co.uk; ***by fax on 0171 383 5578; or by mail to Messages, INTERNET, Greater London House, Hampstead Road, London NW1 7QZ.***

Attitude problem

PAUL LAVIN

writes...

Having decided some years back that the Internet was worth the expense, both direct and indirect, I haven't paid much attention to connection mechanics for some time. This was a fatal mistake, as I found out the hard way.

Anyone who uses the Internet for business or pleasure has to pay attention at all times, because this boon to modern business can wind up costing a good bit more than you budgeted for, as well as delivering some unexpected, non-commercial perks.

I recently received a BT bill for my ISDN Internet line to Pipex that had me seeing red. While I use the Internet frequently, I am not what anyone could reasonably call a surfaholic. The BT bill, about three times its normal quite serious size, was a direct result of bad Internet systems administration at a site thousands of miles away. Nothing to do with me, you understand, except as the payer of the resulting BT line charges.

In the stark white light of hindsight, it is all so easily explained. Now if only BT would take a good explanation about the bill... While cruising the Web one day I called in at a variety of sites for the answers to questions that constantly vex Net gurus. How big is the Internet? How fast is it growing? Who is using the damn thing? Among other places, I called at the Web pages of the venerable Internet Society for its views on the matter.

What happened next is not unusual, I am led to believe. My Netscape Navigator version 1.0N browser hung. Hey, if you are running Windows you get used to that! Having had a pretty successful troll about the Net up to this point, I elected to terminate my browser with extreme prejudice and go about my merry way.

Unbeknown to me, the server that was charged with the responsibility of feeding me a Web page was badly set up, and administered in an even worse fashion. When I pulled the plug on the crashed browser, the remote server kept trying to deliver. Bizarrely, it was sending me a single empty packet of data every 30 seconds...and it kept on doing this for over a month.

Big deal, huh? Well, a well managed high-speed interface like ISDN requires a router to efficiently direct traffic inwards and outwards. My Telebit Netblazer router, like all the routers in the world, is configured to deliver the best service possible given the idiosyncratic usage that it is subjected to. Part of this configuration is something called a 'keep alive'.

Even though ISDN connections are virtually instantaneous, it's still efficient to keep a connection up for a while after traffic ceases. A minute or so is considered a good compromise. Recall now that the *$!@& server on the other side of the Atlantic was sending an empty packet my way every 30 seconds.

The BT bill, about three times its normal size, was a direct result of bad systems admin at a site thousands of miles away

Whenever I fired up my Internet connection, that packet would come zinging in, and when I terminated my browser, FTP session or email binge, that stray packet would tickle the keep alive in the router and keep my ISDN line up, whether I was using it or not. At one point I shut off every PC on the lan and the router's red lan LED still showed a red blip.

I did notice a tendency for the line to stay up and, whenever it caught my eye, I would traipse over and kill the line manually, but sitting and watching an LED isn't the only thing I have to do with my time and sometimes the line stayed up for a good long time. According to my bill, 408 minutes was the longest stretch, but there were others nearly as long on occasion.

My ISDN terminal adapter (TA) sits atop my router (instead of existing as a card inside or as an internal PC expansion board or residing in a cabling cupboard), otherwise I would now be filing for bankruptcy because of BT charges approaching the national debt of some third world country.

In fact I feel a little like my aged father-in-law who goes around unplugging appliances when they aren't in use, because lately I have taken to unplugging my TA whenever I leave the office.

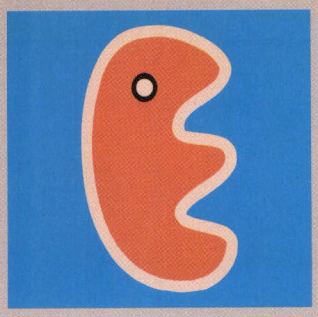
Pipex helped a lot and special thanks go to Marlene, ace network troubleshooter! At first I thought that I had been hacked. When Marlene figured out what was happening, she built a packet filter for me to keep the offenders from keeping my connection alive. She also sent email off to the administrator of the site to get his system to cease and desist.

What is galling is the indifference of the remote systems administrator to the hundreds of pounds that his badly administered site cost me. Can you imagine allowing a process to run for over a month with no discernible benefit to anyone? That's an academic site for you.

It took two sets of emails to get anything done at the remote end, and when I got a little testy at the lack of action or apology for the little screw up, I was lectured on diplomacy and admonished to terminate my applications in an orderly fashion. Not his problem, he said.

The point of this tale is that the Internet must be managed. If that means denying alt.manchester.united to your employees with Internet Nov*ix, or keeping an eye on an idiot light, then you have to do it. The alternative is to pay the bills with a smile.

Paul Lavin is editor of Info Highway. His email address is plavin@caversham.win-uk.net



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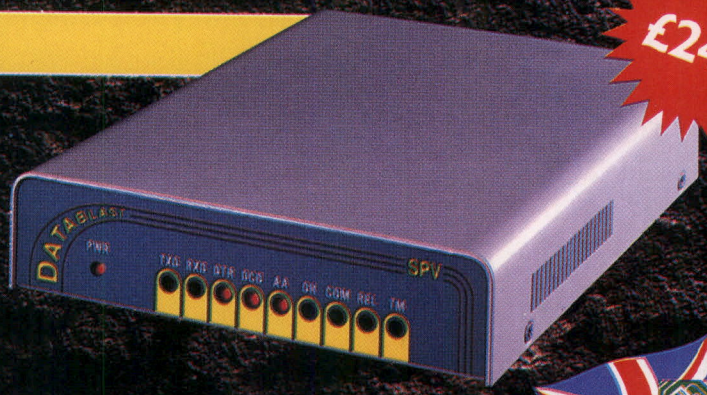

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DANIEL DERN

writes...

What is the Internet? One of my current definitions is 'The Internet is a way for people using computers to a) communicate with other people using computers and b) access and provide computer-based stuff.'

And what I mean by 'stuff' is text files, graphic images, real-time weather maps, audio files, television cameras watching coffeepots, robot arms, library card catalogues, databases, newspaper headlines and contents...anything that can be expressed using those Os and 1s.

Users employ programs to access stuff. Well, pairs of programs actually, as you, the user, invoke and use client programs and these client programs interact with server programs, which manage Internet stuff. The server 'knows' the format information is stored in, manages the data, handles requests from users and so on.

A parallel is a VCR and a television. The VCR can be considered a server in that you don't watch television on your VCR, per se. The VCR manages 'video stuff' – TV programs, rented movies, episodes of *Dr Who*, training videos etc.

Your TV (ignoring the channel tuning part) is, in this sense, a client for video; that is, you use it to view stuff served by your VCR

Most VCRs can also be used as audio recorders and it's even possible to use your VCR as a backup device for computer data (this never caught on!).

Your television (ignoring the channel tuning part) is, in this sense, a 'client' for video; that is, you use it to view stuff 'served' by your VCR. A videocamera is another type of 'video client', one which sends data to your video server.

Types of Internet servers include World Wide Web servers, aka HTTP (HyperText Transport Protocol) servers, Gopher servers, FTP servers and IRC servers. Terms like 'Web server' and 'Web site' often refer to servers and the stuff they provide.

It's possible for different types of servers to point to the same stuff. For example, Novell makes data available through its Web server, Gopher server and FTP server.

Email and Usenet also involve servers. A mail server program at your site handles the actual sending and receiving of messages between you and other people and the same applies to Usenet. A Usenet server program, aka News or NNTP (Network News Transport Protocol) server, is responsible for managing Usenet at your site: receiving articles when you connect and making them available to you.

A client program has a user interface, ie it takes commands – in other words your input – from the keyboard or mouse. It also speaks the appropriate protocol to talk to a server, eg HTTP protocol to talk to a World Wide Web server or Gopher protocol for talking to a Gopher server. This includes translating your input into the protocol and receiving the responses, such as 'Sorry, you're not an authorized user' or 'Too many connections, try later'. It also manages output or responses from the server.

Until recently, people built a different client program to go with each type of server. For email, there are email (client) programs. For Usenet, there are Newsreaders. Similarly, when Gopher servers were developed, so were Gopher client programs and, for the early Web servers, Web clients. Even on one type of platform, such as Unix, several clients were quickly developed.

So, for Gopher there was the ASCII Gopher client used by people (like me) with ASCII-oriented shell accounts. Then along came XGopher, which ran on X Window (Motif) systems. The ASCII Gopher client ran within a terminal session and let the user move the cursor with arrow keys. XGopher provided windows and icons as a user interface.

Ditto for the World Wide Web, for WAIS...each new (Internet) service based on a new server came with matching client programs.

I said earlier that the client manages the server's output. Managing output is where it begins to get interesting and why this will be a two-part article. First, what do you do with output? You view it, save it or throw it away.

Saving is easy. If your client program can receive something from a server, it can be saved to a file. If your VCR can take a signal in, it can record it, whether it's colour, black and white, an episode of *The Good Life* or whatever.

Displaying isn't necessarily as straightforward. It assumes (1) you've got the right hardware and software, and (2) things are connected and configured properly.

For example, I can't watch a videotape of *A Bit of Fry and Laurie* if I have a stereo and speakers but not a television. If the recording's in colour but my television is black and white, I can't watch it in colour.

It's the same deal with computer stuff. My previous monitor was black and white and didn't do graphics. My current monitor does and can. I've got a sound card and speakers for 'displaying' sound and I've got programs that 'display' graphics, sound and so on. Some programs I have include (or link to) viewers automatically, so that if they encounter a picture or a sound they can 'display' it for me automatically.

The question at this point is how do I get and run Internet clients that let me work with Internet stuff as directly as possible? I'm glad you asked, because next month we'll take a look at the answer...and what Pipeline, TIA, SlipKnot, Mosaic and Netscape have to do with all this.

Based in the US, Daniel Dern is an Internet analyst and a regular contributor to Internet World. His address is ddern@world.std.com

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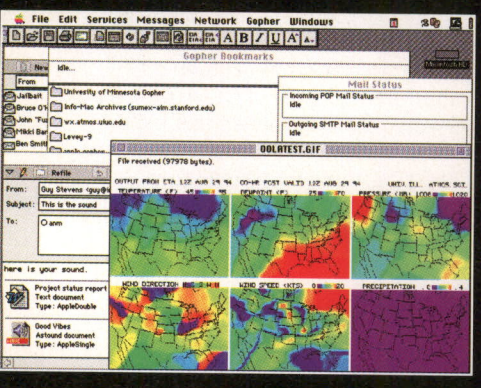

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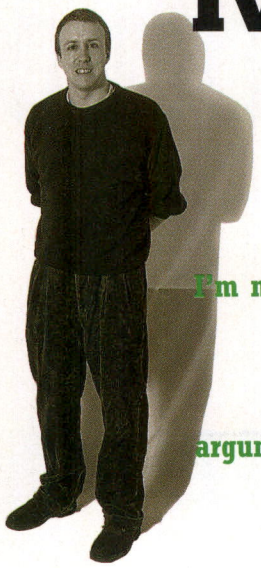


IVAN POPE

writes...

Never mind the quality, feel the bandwidth?

I'm not a technical person and I'm the last person you would want to get into a technical argument with, but I have to confess I'm worried about the bandwidth situation.

Everyone who uses the Internet, and a lot of those who don't but feel they should have an opinion on it, complain about the speed with which things arrive. Anyone brought up on television is used to a large bandwidth delivery – full colour images direct to your home in 'real time'. Agreed, the TV doesn't actually do anything with these images except display them as they come in. It can't store them, re-run them later or ask selectively for different images (though a VHS seems to be television's rudimentary hard drive and I'm sure we'll eventually see Ram-based video players).

At its basic level, Internet access provision is a commodity service. Bandwidth is bought and sold on a contract basis with big players buying up the chain and selling sub-divided portions down the chain. As the Internet has no 'central point' or single backbone off which everyone can hang, buyers have to make arrangements with whoever is offering bandwidth for sale. There is no obvious 'quality control' in this area, no guarantees of routing, and certainly not for the dialup buyers who live at the end of the food chain.

Even things that seem obvious rarely are. UUNet in the States sells T1 (1.54 Mb) lines that are really 128kbps lines. How so? It will sell you a line with T1 capacity and you can 'burst' up to 1.54Mb, but if you regularly exceed 128kbps it will charge you for the privilege. You can rest assured that it's selling the same capacity to dozens of others. As bandwidth is a finite yet infinitely sliceable commodity, the temptation for re-sellers is to oversell what they have.

Put it like this: I buy a 2Mb line into the Internet. To make money on this I have to sell a certain amount of lower capacity lines, all of which will happily share my 2Mb. However, once I've sold all those lines, I find that for 60% of the time my 2Mb line is heavily underused - anyone who uses the Internet between 2am and 11am will know what this means. So, without increasing my costs beyond sales and support, I think I can

Try asking your provider exactly what its capacity and bandwidth are

sell another tranche of leased lines. I mean, the customers are begging for it, it's a sellers' market, and no one ever asked me for a quality assurance.

Several of these lines are being used to connect office blocks, bulletin boards or heavy bandwidth users. The spare in the available bandwidth is soon eaten up and the whole thing slows down to a crawl. Users who don't have to use the system get bored with waiting and stop using their connection, so the average load goes down but I keep selling subscriptions.

It's enough to make a finance director laugh out loud. It's like our infamous motorway system. Build a four-lane highway (call it, perhaps, the M25) to take the pressure off ordinary roads and existing motorways. As soon as it's built, drivers take to it in droves, using their cars for journeys which they previously wouldn't have wanted to make because of traffic jams. Before we know what's happening, there is agitation to up the roadwidth to eight lanes because the new motorway is overcrowded.

Road usage will always expand to fill all available road space; network usage will always expand to fill all available bandwidth. That's not to say that no one is making journeys, just that there's a lot of frustration and wasted time en route. Talk to industry pundits – yes, we do have them now – and they'll tell you over and over that the speed of your connection always depends on the weakest link in the chain. Having a fast local connection doesn't always mean that that Web page will arrive before you get bored and hit the Stop button.

However, things go deeper, or shallower, than this as users of most UK dialup services know full well. There's a cycle of boom and bust as the providers have struggled to cope with the flood of newcomers. They don't seem to be able to plan ahead; to invest to cope with future growth. Instead they lag behind, always promising upgrades, new pipes, new machines and heavier, harder connections. For the whole history of dial-up connectivity here providers have relied on 64k lines, stringing them together to form national networks. It doesn't take much to saturate these networks, even within the country.

Now, with the arrival of BT, Energis and other fibre providers, you may think a golden age has dawned – but think again. The move for small businesses and even home users will accelerate towards 64k, 128k and 254k lines. ISDN may well break cover and become a major bandwidth absorber.

When a provider can sell you ever cheaper leased lines, think for a moment about how many others will be buying into the same lines. Think about the European and trans-Atlantic links which are still in their infancy. Try asking your provider exactly what its capacity is; what bandwidth guarantees it offers. Don't accept technical explanations – demand it in plain English.

We need to move towards a measurement for bandwidth quality; a standard all providers can be measured against. We need to move towards bandquality rather than bandwidth. It's a brave new world, but it's got a lot of the tired old world about it.

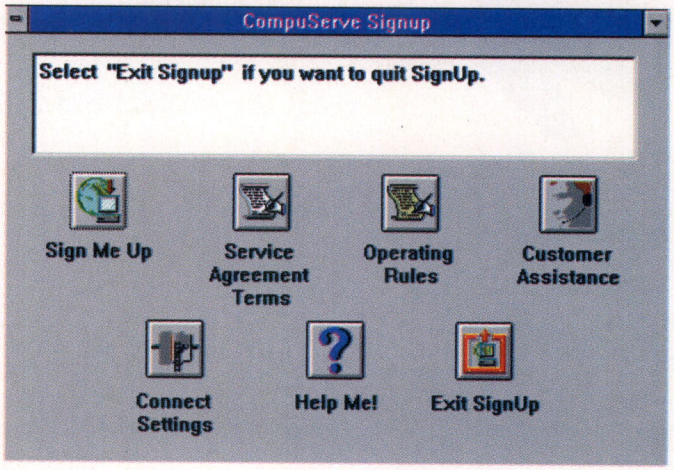
Ivan Pope is the author of Internet UK and a director of Webmedia, an Internet 'production powerhouse' at http://www.webmedia.com

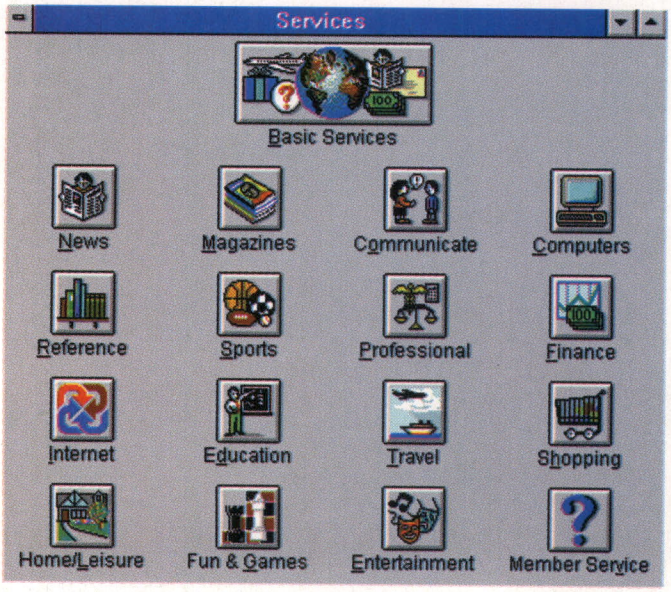
Go CompuServe

CompuServe has finally joined the rest of the Internet and is now offering full access. To make life easier for users, CompuServe provides a program known as the CompuServe Information Manager (CIM) to all subscribers. There are versions of CIM for DOS, Macintosh and Microsoft Windows. This month's exclusive cover disk contains WinCIM 1.4 – the ultra new, all-singing, all-dancing, full TCP/IP CompuServe front end. As well as being the first glimpse of the software in the UK, our offer includes a month's free membership and a £10 usage credit for exploring Extended Services

Step 1

Start up your PC and load Windows. From the main Windows screen (Program Manager) select the File menu and then choose the Run option. Press the Enter key and a dialogue box will open up onscreen. Now insert the cover disk into a suitable floppy disk drive and type A:\SETUP (or B:\SETUP if the disk is in drive B:). The program should fire up an automatic Windows installation process with the message Installing WinCIM displayed onscreen. By default the program will try to install the software on your main hard disk, drive C:, in a directory labelled CSERVE. If you have a second disk drive with more storage space, you may choose to install to that one, (for example D:\CSERVE). Other programs such as CompuServe's Navigator (an off-line reader) utilise the same directory so it is best to stick with the directory name CSERVE.





Step 2

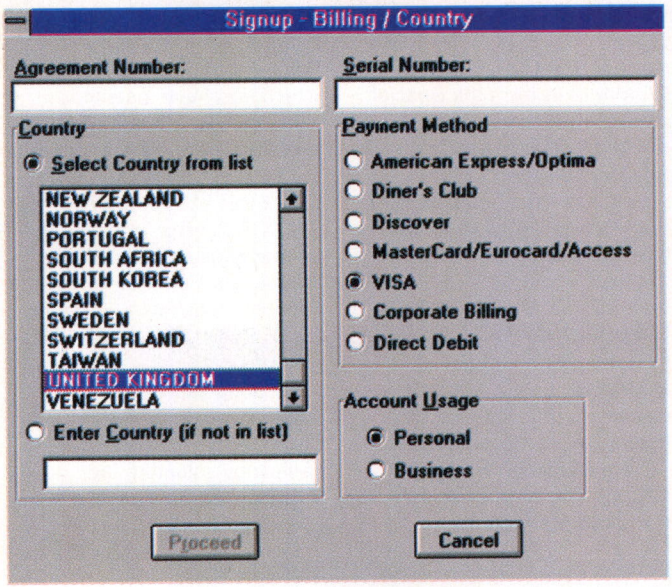
The software will ask if you wish to install sounds with WinCIM. Answer yes if your PC has a sound board such as a SoundBlaster card. When the software asks whether you wish to copy the Signup files, only answer no if you are already a subscriber. When the installation files have all been copied, the program asks whether you wish to sign up with CompuServe. Select Proceed to carry on.

The program then presents a new menu. Before signing up, go to the icon marked Connect Settings and click on it.

It's a good idea to have your modem ready i.e. plugged into a serial port and the telephone line so that WinCIM can detect it. If WinCIM doesn't have an exact match for the name and model of your modem, selecting the Hayes option is fine since most UK modems are Hayes compatible. If your modem supports the V.32 or V32.bis standards, raise the speed setting from 2400bps to 9600bps or 14400bps respectively. If you plan to dial into CompuServe via the company's own telephone numbers, retain the network setting as CompuServe. Those in outlying areas who wish to utilise BT GNS Dialup service (formerly known as PSS) or Mercury can leave the network setting to CompuServe and make the change later.

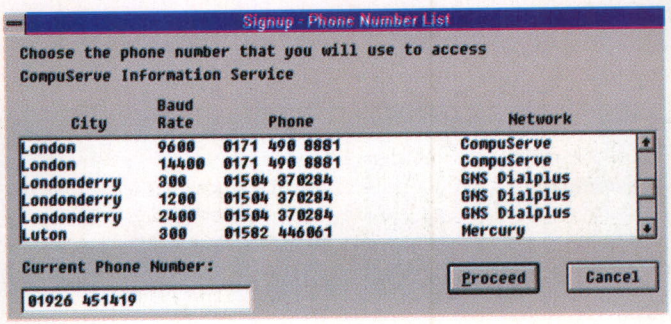
Those planning a direct connection through the Internet should go to Step 4.

Step 3



Now click on the icon marked Sign Me Up. Go to the option marked United Kingdom, which will select the right telephone numbers for you. Select your chosen method of payment (i.e. Access or Visa), but you don't pay anything until after the first month (unless you exceed your £10 usage credit of course). Corporate users can select corporate billing if they want to pay monthly. Now remove your cover disk from the floppy drive and copy the serial number and agreement numbers printed on the disk into the boxes marked Serial Number and Agreement Number, then click on Proceed. The program will now take you to a screen where you can fill out your personal details. The installation process will next ask whether you wish to receive the CompuServe magazine free of charge, and whether you wish to be on the mailing list. Make the appropriate selections. Now read and accept CompuServe's terms of usage and press Proceed. Once this task is completed, the software offers a whole list of UK numbers. Select the closest town/city to you, which should hopefully be accessible via a local call. The software indicates whether the number is CompuServe's, Mercury's or a GNS Dialup number. Additionally if there is more than one number and you have a fast modem select the number for the highest speed (bps) which matches the modem's capability.

The next choice depends on the type of telephone line you have. Most modern phones dial numbers by generating tones, so select the Tone dialling option remembering to add an extra digit (such as 9) if you are connected to a switchboard. The next step asks which serial port (ie COM1) the modem is connected to. If you aren't sure, select the auto-detect option and ensure your modem is switched on. Press Proceed and the software will ask whether you wish to sign up. Check this option if you are ready to do so. The software will then dial into CompuServe. Should the screen fail to show that you have connected successfully, go back to Step 2 and the Connect Settings box. Is your modem plugged into the BT wall socket? Switched on? Connected to the right serial port? If you make a mistake in your sign up details, CompuServe will display an appropriate error message. Go back and complete Step 3 again. The program should highlight in red any parameter which appears to be incorrect. If all goes well, the system will provide you with a unique ID number and a temporary password. A new password will follow in the Post.



GETTING HELP WITH YOUR FREE COMPUSERVE ACCOUNT

We have done our utmost to give you full instructions on how to use the free disk supplied with this issue. If you have any problems getting going, CompuServe have a helpline ready to answer your queries. The helpline is open from 9am – 9pm weekdays, 10am – 5pm Saturdays.

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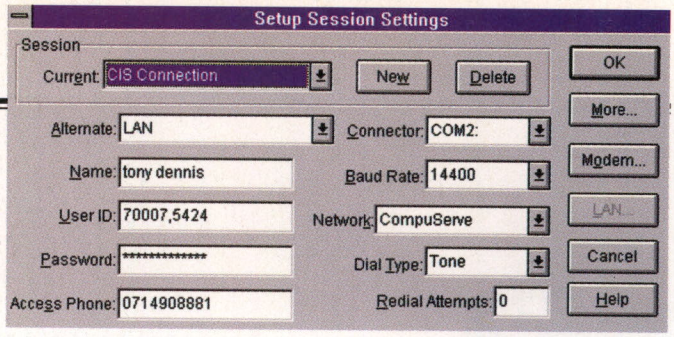


Step 4

Step 5

As part of a its move towards full Internet access, CompuServe is now offering its own WWW services. In order to access the Web via CompuServe, however, you must first get a copy of CompuServe's Spry Mosaic.

This is obtained by typing GO PPP, selecting Windows Setup, and following the online steps which enable you to download the NetLauncher package. This package will contain CompuServe's Internet Dialer, Spry Mosaic and a viewer (ImageView) for displaying GIF images. This should take approximately 20 minutes.

Having downloaded the files from CompuServe, disconnect from the service. You will now be able to proceed and install the software on you machine.

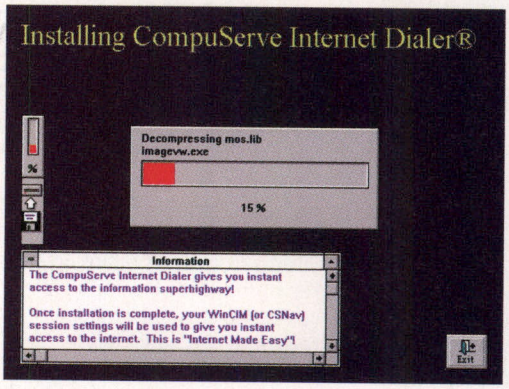
In order to keep users' telephone bills down, CompuServe itself operates five local points of presence (technically known as nodes) where callers can dial in and pay only for a local call.

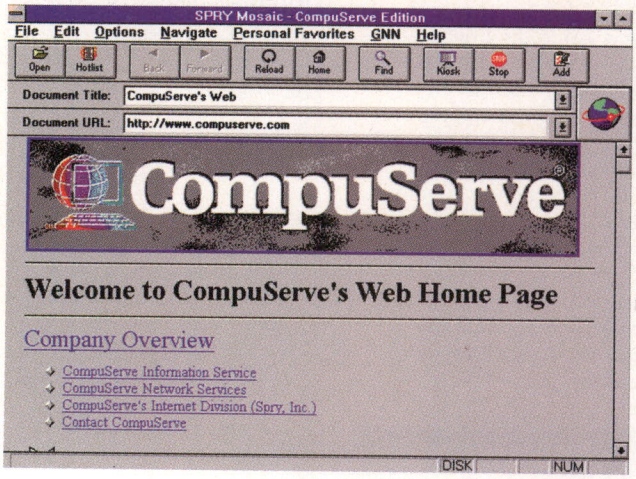
Alternatively users can dial in via Mercury or GNS Dialup. There are, however, certain disadvantages to taking this approach. CompuServe only provides dial-in speeds of 14,400bps (bits per second) in London. Elsewhere the maximum dial-in speed is usually 9600bps. One of the major enhancements in this version of WinCIM is that it is now a TCP/IP client. Therefore it may be well worth subscribing to an Internet access provider who has faster 28,800bps (V.34) or even ISDN access and connecting to CompuServe via the Net. To do this requires changes to WinCIM's settings. First of all, run WinCIM and from the Special menu select the option marked Session settings. Start by selecting the New option and type in a name for the settings (eg Lan) in the Current box. Now select the Connector button and find the option marked WINSOCK. Once this has been selected, the Lan option will be accessible. Select this and ensure that the Host name is filled in as compuserve.com

WinCIM achieves its link through the Internet via a standard interface known as Winsock. It is therefore important that you use the version of Winsock supplied by your Internet service provider. Ensure that the directory in which you have installed Winsock – which will normally be WINDOWS - is contained in the PC's PATH= statement. Check this by typing PATH at the DOS Prompt `>'. Once the Lan settings are correct and loaded, start up your direct connection to the Internet via Pipex, EuNet, Demon or whoever.

Having established an Internet connection, join CompuServe's standard service by selecting the Connect option from the main File menu.

Step 6





Having downloaded the files, return to Windows main menu (Program Manager) and select the Run option from the File menu. Now follow the instructions you were given online to install the software – it will be something like C:\cnl.exe This program will automatically install CompuServe's new Internet software suite in your existing CompuServe software directory. Please note, only allow the software to change your WINSOCK settings if you now wish to access the Net via CompuServe rather than an alternative service provider. Once the process is complete there will be a new set of icons in your existing CompuServe Window. The two main programs involved are Spry Mosaic and Net Launcher. Spry Mosaic is a standard Web browser, while Net Launcher is the dialling package which makes the dial-up PPP links via CompuServe possible.

IF THE PRICE IS RIGHT

If you access CompuServe using our cover disk you will receive the first month's membership free. After that the, the cost is £6.50 per month. Online charges are split into three sections: Basic Services are free at all time; Extended Services are 5p/min; and Premium Services are individually priced, with the costs shown online. Remember though, you still have to pay for your calls – so pick a POP close to you!

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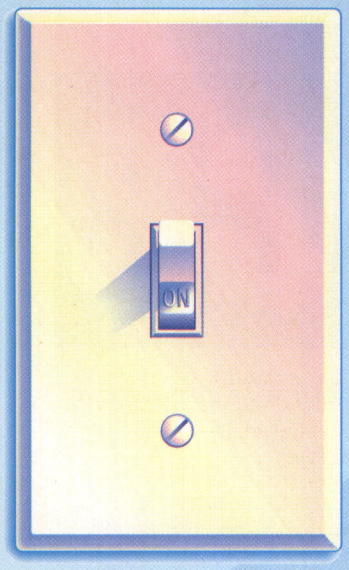

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PCWEEKLABS, JAN. 23, 1995

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INTERNET FIREWALL SECURITY *for the* Technically *challenged*

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Hide yourself in cyberspace

Sometimes it's a good idea to keep your identity underwraps. **John Elliott** *reveals all*

There's a moment of excitement when, as a new Internet user, you get your email address. It's a marker to show you belong to the largest community on earth and a modern-day rite of passage. You quickly go online and send mail to all your friends. You re-print your business cards and quietly rejoice in the fact you're connected, but there's a problem. One day you want to send a message to someone in the Internet community and start to think that maybe you don't want the whole world to know who you are.

Maybe you've not had an occasion where you've felt the need to send an email or post to a newsgroup without revealing your identity, but that time will come. Perhaps you discover that your employer is contravening health and safety regulations or is deliberately misleading the public in some way. Maybe you need to ask a technical question in a newsgroup but you're in a position where someone would expect you to know the answer. Possibly you'd like to post an advert to jobs.wanted but you don't want your existing employer to know that you're looking. Alternatively, you might want to contribute to one of the many newsgroups that discusses sensitive subjects, such as alt.sexual.abuse.recovery, without broadcasting to the world your own personal circumstances. However, there is a solution to this on the Net – an anonymous remailer.

"Even if you don't have a computer account, a lot of information about you is available whether you like it or not"

An anonymous remailer is a computer connected to the Internet to which you can send email or newsgroup posts and which will remove your identification before forwarding it to the intended destination. These remailers are run by a diverse group of people who passionately believe that the privacy of the individual should be respected on the Net. As they're by no means 'official' or 'sanctioned' by the backbone Internet providers, some remailers tend to disappear and resurface on the Net on a regular basis.

To use a remailer you first need to find out its Internet address. You can get a comprehensive list of remailers by fingering remailer-list@kiwi.cs.berkeley.edu. The same information can be obtained on a Web page at http://www.cs.berkeley.edu/~raph/remailer-list.html. The list, compiled by Ralph Levien who's known as the Remailer Guru, is also regularly posted to alt.privacy.anon-server.

One popular US-based remailer that's been around for some time is at alumni.caltech.edu. To use it you address your message to hal@alumni.caltech.edu, with the actual subject you want as the subject line. Then you start your message with the following:

```
::
Request-Remailing-To:
user@destination.address
Message text
```

You must get the syntax of the first two lines absolutely correct or your mail won't get to where it's intended.

What the recipient will see when they get the message is:

```
From: anonymous-
remailer@shell.portal.com
To: user@destination.address
Message text
```

If you want to try out a re-mailer, you're advised to try sending yourself a few messages first to make sure you've got the hang of things.

You may wonder how safe anonymous remailers are? After all, couldn't the police find the remailer and analyse the mail logs on it, or couldn't the administrator of the remailer read all the messages that pass through it? INTERNET asked Johan Helsingius, the administrator of anon.penet.fi, about these concerns and other issues.

INTERNET: **Why did you feel the need to set up anon.penet.fi?**
JH: **It started out as an experiment. I did the first version over a weekend. Word got out about the service and pretty soon I was swamped with mail telling me how important the service was for a lot of people, and encouraging me to continue maintaining the service.**
INTERNET: **How many messages do you remail each day?**
JH: **On an average day, something like 8000 messages.**
INTERNET: **What hardware platform does the remailer run on?**
JH: **Just a basic 486 box.**
INTERNET: **How large is your connection to the Internet?**
JH: **64k.**
INTERNET: **How long, on average, does it take for a message to pass through your system?**
JH: **Usually less than half an hour, but there are periods of overload.**
INTERNET: **Have you ever had any pressure from your service provider to stop the remailer service?**
JH: **Not since moving to a purely commercial service provider.**
INTERNET: **Thinking of the recent raid by the Finnish police, do you regret giving out a user's ID so easily, and will you react differently if the situation happens again?**
JH: **I didn't give it out that "easily" - the police had a search & seizure warrant for the whole machine, the hard disk and everything. Not much I could do. But I am actively pursuing all legal avenues to get a higher court judgement on the legality of the warrant and the police action, as well as a re-evaluation of the data privacy and telecomms laws. It's looking very promising.**
INTERNET: **Have you ever had any pressure from the Finnish authorities (either government or police) to stop the remailer?**
JH: **No.**
INTERNET: **How would you react to such pressure?**
JH: **I would try to make the pressure as public as possible.**
INTERNET: **Many of the postings to the alt.sex groups pass through your service. How can you justify providing anonymity to people that many would classify as perverts?**
JH: **Who am I to judge who is a pervert and who is not. I don't pass judgment based on content as I can't possibly know all the reasons for wanting to be anonymous, just like I never would have guessed somebody needed anonymity in comp.lang.c or misc.kids, until someone pointed out very valid uses in those groups.**
INTERNET: **How can you prevent illegal (ab)use of your system.**
JH: **I don't think there is a system that could detect criminal activity automatically and I don't have the legal or the moral right to 'peek in' on messages going through the server.**
INTERNET: **How can you prevent organised crime from abusing the phone system?**
JH: **Just as a court can order wiretapping in case of serious crime, and for phone records to be released in slightly lesser crimes, a court can order selected information to be released, but it definitely has to be a court; random police warrants wouldn't suffice.**
INTERNET: **So would you release information if you were served with a court order?**
JH: **If I was serverd with a court order, I would have to comply.**
INTERNET: **What authority would you recognise?**
JH: **It would have to come from the Finnish authorities, but of course Finland is also party to a lot of co-operation agreements.**
INTERNET: **What steps do you take if you receive complaints from Internet users who are getting abusive mail or posts via anon.penet.fi.?**
JH: **I have a very clear-cut policy that is followed without exception. The first time I receive a complaint, I send the abusive user a message asking for an explanation to ensure the abusive message isn't a fake. If the warning message doesn't end the abusive activity, I block that ID.**
INTERNET: **Do you read the messages going through the system? Could you?**
JH: **I don't, but yes, I could peek at individual messages, but there's no way a human could check 8000 messages every day.**

Another of the most popular remailers is based in Finland at anon.penet.fi. This works in a slightly different way to the majority of remailers on the Net in that you first register and are then given an anonymous address. What this means is that people can then reply to your anonymous emails and posts. They address their message to your anonymous ID and the server at anon.penet.fi forwards the mail to you. On the way it will make the message anonymous, so you don't know who it's from. This is called a 'double-blind' remailer.

To register to use this anonymous server you first need to send a message to ping@anon.penet.fi. You'll receive back an anonymous ID which will be in the form an1234@anon.penet.fi. You'll next have to submit a password to the remailer which ensures that only you can use the anonymous ID allocated to you. To send an anonymous email, you address your message in this way:

```
To: anon@anon.penet.fi
Subject: The subject of the message
```

Then start your message with

```
X-Anon-To:
user@destination.address
Message text
```

The recipient will get a message that looks like this.

```
From: an1234@anon.penet.fi
To: user@destination.address
Message text
```

If they then reply to an1234@anon.penet.fi the remailer will take the message and forward it to you. If you want more information about anon.penet.fi send an email to help@anon.penet.fi and you'll receive full details by return.

The seriously paranoid who don't trust a single remailer can employ at technique known as chaining where you send an email through a number of remailers. In this way it's virtually impossible to trace the path a message has taken through the Internet and discover the author. If you add Pretty Good Privacy (PGP) encryption to the message you're sending and encrypt between all of the remailers, many of which support this feature, there's absolutely no way that your message can be traced to you or read en route.

Internet 'authorities' are reluctantly accepting that they're going to have to start addressing the issue of regulating the Net and the future of anonymous mail rests with us, its current users. You might believe that there's no place for hiding your identity on the Net, but then you're also probably one of those people who endorses identity cards and bar coding babies.

"A court can order selected information to be released, but it definitely has to be a court; random police warrants wouldn't suffice"

Alternatively, you may subscribe to the view that the last thing we need is for the 'state' to monitor our every action, in which case you should take an active role in protecting our Net from interference by people who believe they know what's good for us.

There's no question that uneducated government departments throughout the world will start drafting legislation in the near future, and it's your choice whether the Net remains free or controlled. I am not advocating either standpoint, just suggesting that if you feel strongly on the subject now is the time to join the debate.

For more information on anonymous remailers and on anonymity on the Net in general, look at the newsgroups alt.privacy and alt.privacy.anon-server. There are two very good Web sites which collate much of the information available on remailers. One is at http://www.eff.org/pub/EFF/Issues/Privacy/Anonymity/anon_remailer.faq, the other at http://electron.rutgers.edu/~gambino/anon_servers/anon.html The latter is run by someone who prefers to be known as 'Yoshi M.F'. **INTERNET** asked why he feels anonymous remailers are important? Here is his reply:

"About privacy on the Net, I do feel very strongly about keeping it. In fact, sometimes I find the Internet, especially being on a university computer, a real invasion of privacy. I mean with some of the finger information given to the world, including address, age (well year of graduation), phone number etc that privacy should be a huge issue.

"I could understand a private computer service displaying this information to the world, as with a private service, you in a way ask to be represented online, but on the Internet, even if you don't have a computer account, a lot of information about you is available whether you like it or not. I think via anonymous remailers you can at least rectify some of your privacy. One of my friends posted to the chemistry newsgroup that he could get certain chemicals, or rather that he knew of a company that supplied certain chemicals. Within one week the FBI called him to tell him he was under investigation, and better watch himself. Of course, if he posted anonymously none of this would ever have happened."

If you have any views on anonymous mail that you'd like to share with other **INTERNET** readers, you can mail the editor neile@computing.emap.co.uk - anonymously or otherwise.

John Elliott is an Internet consultant. His email address is johne@cityscape.co.uk

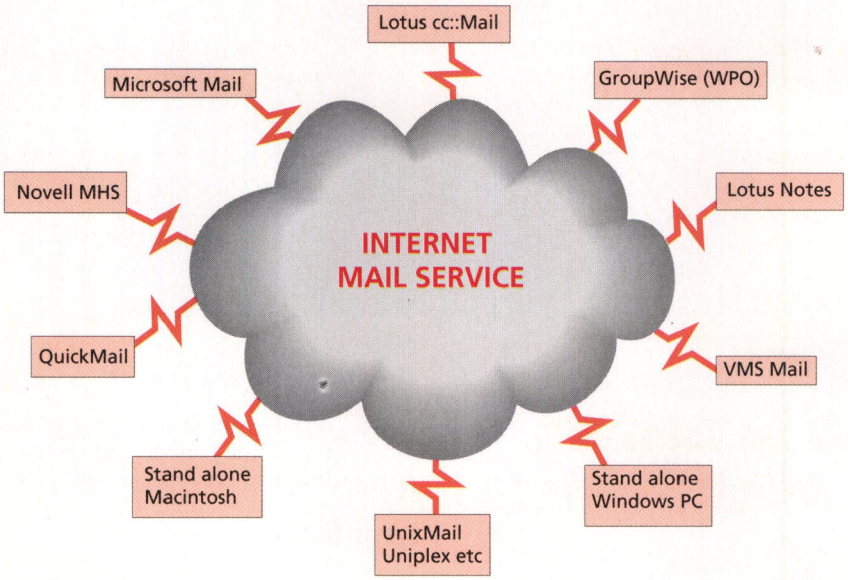
RETURN TO SENDER

Heres a list of some of the more common remailers available:

syrinx@c2.org
remailer@tower.techwood.org
mixmaster@nately.ucsd.edu
remailer@nately.ucsd.edu
vanka@eniac.ac.siue.edu
remail@c2.org
anon@anon.penet.fi
hal@alumni.caltech.edu
hfinney@shell.portal.com
q@c2.org
nowhere@bsu-cs.bsu.edu
usura@replay.com
remail@vox.xs4all.nl
remailer@myriad.pc.cc.cmu.edu
hroller@c2.org
remailer@ideath.goldenbear.com
remailer@xs4all.nl
tomaz@flame.sinet.org
remailer@rebma.mn.org

ELECTRIC MAIL

CONNECT YOUR E-MAIL SYSTEM TO THE INTERNET



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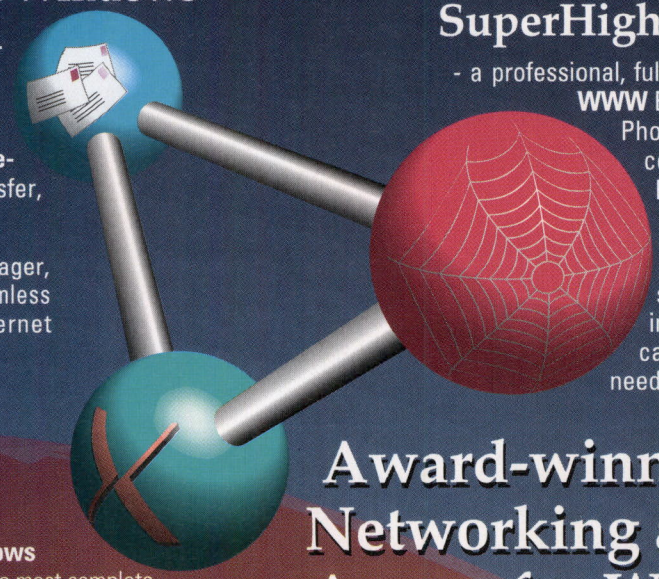

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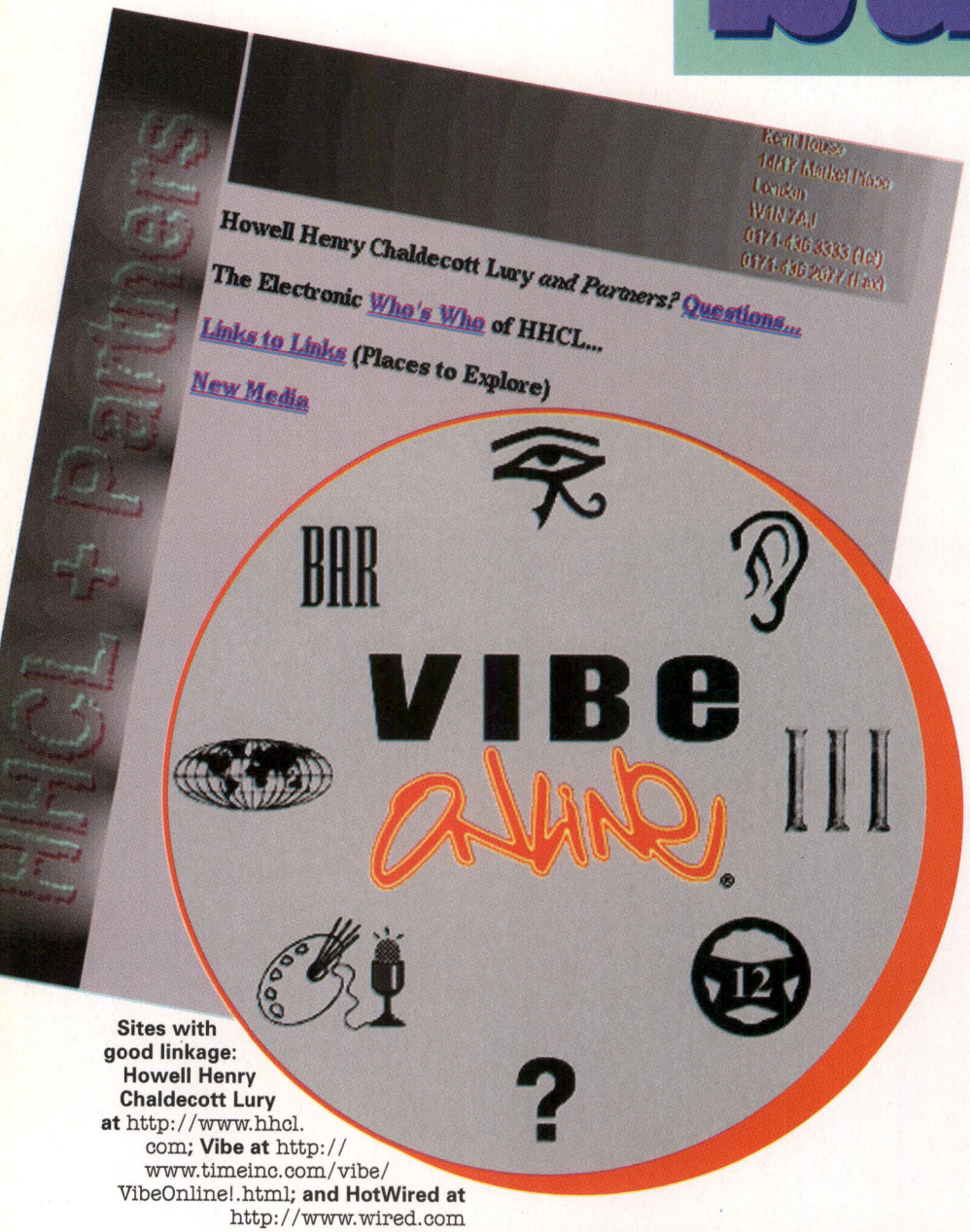


Sites with good linkage: Howell Henry Chaldecott Lury at http://www.hhcl.com; **Vibe at** http://www.timeinc.com/vibe/VibeOnline1.html; **and HotWired at** http://www.wired.com

SIGNAL

NET SURF

EDITED BY JUNE COHEN

A site you return to is not about where it's at but where it takes you to, says **Simon Waldman**

Right, imagine your ideal trip around the Web. You start off at some new site that you've read about in the back of this magazine, and then you get going on those hypertext clicks. One minute you're looking at the sliced-up body of a serial killer, the next you're downloading a sample of the new Drugstore single.

Each page you come to offers you somewhere you want to go to next, so you leap around the Web like a grasshopper on heat. The phone bill's building up but you don't care – you have entered that state of Net nirvana which just compels you to keep going.

And then it happens – you're at a dead end. Some selfish sod has put a page up there without a link on it and you have to reverse out or dig up another URL. Neither of these are particularly strenuous activities, but hey, you were on a roll.

Everyone who has spent a decent amount of time on the Net knows that the best pages have three characteristics. First you can get to them easily, second there's something interesting there, and third they offer you links to somewhere you're interested in going to. In fact, with some of the best pages, the links are why you go there in the first place.

Commercial sites, however, are not very good at this. Advertisers and publishers just can't get their heads around the idea that they should offer people a way out. They base their pages on the principles they have mastered in traditional media. A magazine or newspaper publisher, for example, will have done tons of research into holding on to readers. Likewise, an ad agency wants to keep you hooked to their ads. The aim of a good print ad is to glue

you to the page, to make you stop flicking and stare.

On the Web, however, things are different. The aim isn't just to make you look at a page once, but to keep you coming back, and to do that you need a reason. Good links provide that reason.

This goes back to the way the Web works and the problems we face when using it. It is all too easy to spend your time on the Web in only a very limited section, and this is exactly what a lot of people do. Sitting down with a directory full of URLs and typing them all in is a bit of a pain, and something that a lot of newbies (and a lot of not-so-newbies) are not happy doing. However, if someone offers a set of links you are interested in, then they will enrich your browsing, and for that you'll be grateful.

Here's an example. There are now tens of advertising agencies with pages on the Web. Each effectively offers an online presentation about how great that particular ad agency is. Now, I've visited pretty much all of them, but there's only one I go back to time and time again, and that is Howell Henry Chaldecott Lury (http://www.hhcl.com), the UK agency responsible for the Tango ads.

Why do I go back? Well it's certainly not because it's beautifully designed (although it is constantly improving). No, it's because on the home page, you are offered links to links. The simple fact that the agency does this tells me more about its understanding of the Internet than any uploaded article by the MD telling me about how great the agency is.

Similarly, with Wired's HotWired (http://www.wired.com), the Net Surf section gives you links to some of the best sites around, including some you would normally have no chance of finding. The result? Even when HotWired seems to offer very little, I will still go back.

The Electronic Telegraph (http://www.telegraph.co.uk), on the other hand, has no links, so unless I think there is a story there that I am particularly interested in, I see no point in going down the one-way street it offers me. What makes this so infuriating is that it's so simple to add a few links to an HTML document.

Barclaycard (http://www.barclaycard.co.uk) has put up a heap of stuff about its products, which you might want to browse through once, or possibly twice. However, if I knew that by going to the Barclaycard pages I would then be able to find links to a mass of pages around the world, concerning, say, personal finance and economics, then I would have a good reason to go back.

And getting us to go back is what it's all about. Because every time we go to a page and find there is something really worth going there for, we feel a little bit more endeared to the person who put it up there. When that person is in fact a company, yes, we feel a little bit more endeared to that company, and that is good marketing and advertising.

Publishers have to take note of this as well. When going up on the Net they face an obvious commercial problem. They don't want to give away the commodity that earns them their money – the contents of their publication. Some realise that archiving the material and making it searchable (a good example is Time Warner's Pathfinder at http://pathfinder.com) and then, hopefully, selling ad space on it is a good marketing exercise. Others simply, and irritatingly, just give you a contents list, which is only of fleeting interest at best.

The answer to this dilemma is in links. For example, Time Warner's Vibe magazine (http://www.timeinc.com/vibe/VibeOnline!.html) has realised that even if it were to put everything it had ever published online, it would not be of as much continued interest to readers as the Mammoth Music Metalist of links (http://pathfinder.com/vibe/mmm/music.html).

Again, this is breaking standard media disciplines, but this is not a standard media. It is not something we can see a start and finish to; it is a massive confusing sprawl whose sheer enormity can become a major deterrent.

If we're going to be honest, all the information we will ever want is already up there, but many new commercial users still think the way to keep us happy is to give us even more information – to add to the confusion. Wrong! Keep us happy by helping us through what is already up there.

The presence of businesses on the Net is improving both the appearance of the Web and the quality of what is up there (it's good to read the work of top journalists and to download decent pics and music samples, rather than rely on the offerings of American undergrads). So, yes, let's have your product info, but don't think that you can just put up this island in cyberspace that is completely detached from the Web mainland.

Of course, we'll all look at what huge names like Sony and Reebok are doing, but unless they are fully linked up, they are to the Web what Fergie is to the royals – technically connected but definitely not an integral part of it.

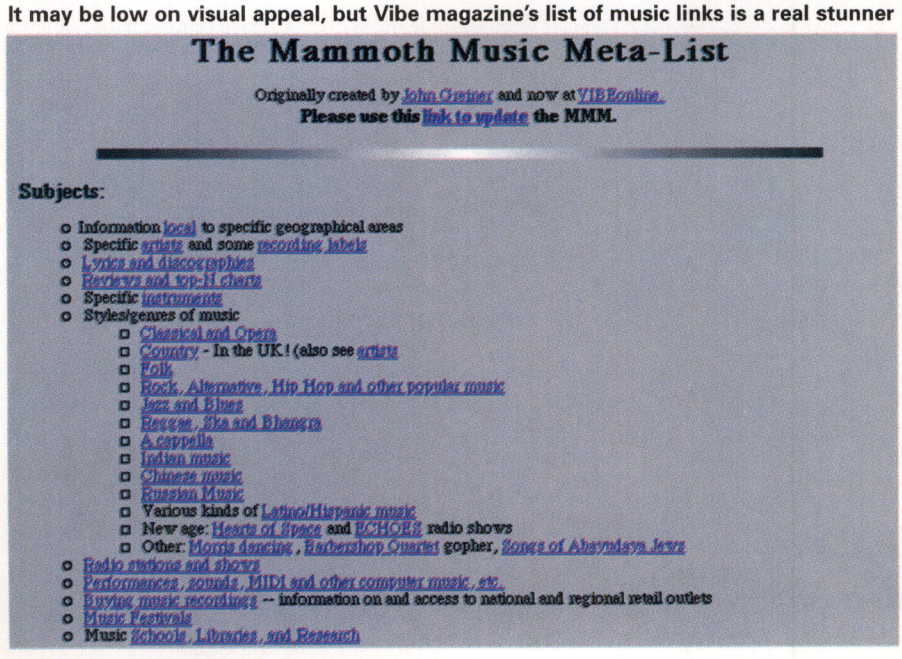
The ultimate goal of every commercial user should be to provide a page that people want as their home page. So every time we log on, we see their logo, as well as being offered constantly updated links.

Look at it this way. It's the difference between a normal shop where you know exactly what you're going to get and the fancy dress shop frequented by Mr Benn, where every visit meant the opportunity of heading out into the great unknown.

Simon Waldman is a new media columnist for Media Week. For his guide to Net ads go to http://www.hhcl.com/wwoa.html

The Geekgirl site is just one of the places HotWired will whisk you away to

...for more



It may be low on visual appeal, but Vibe magazine's list of music links is a real stunner

The Mammoth Music Meta-List

Originally created by John Greiner and now at VIBEonline.
Please use this link to update the MMM.

Subjects:

- Information local to specific geographical areas
- Specific artists and some recording labels
- Lyrics and discographies
- Reviews and top-N charts
- Specific instruments
- Styles/genres of music
  - Classical and Opera
  - Country - In the UK! (also see artists
  - Folk
  - Rock, Alternative, Hip Hop and other popular music
  - Jazz and Blues
  - Reggae, Ska and Bhangra
  - A cappella
  - Indian music
  - Chinese music
  - Russian Music
  - Various kinds of Latino/Hispanic music
  - New age: Hearts of Space and ECHOES radio shows
  - Other: Morris dancing, Barbershop Quartet gopher, Songs of Ahavadaya Jewz
- Radio stations and shows
- Performances, sounds, MIDI and other computer music, etc.
- Buying music recordings -- information on and access to national and regional retail outlets
- Music Festivals
- Music Schools, Libraries, and Research

CRIME *on the* Net

Who's doing it and – more to the point – who is policing it? **Cliona O Conaill** *goes under cover*

Computer crime, which the FBI and Scotland Yard classify as any situation where a computer has been used as a target, as a tool, or where it's incidental, but significant to the offense, is by no means new.

Internet crime, which is essentially a subset of computer crime, isn't new either, but according to the FBI about 90% of current computer crime inquiries are related in some way to the Internet.

The Internet has merely become the latest means of communicating for illegal purposes. It has created new opportunities to commit crime, and a medium which can offer anonymity. The Internet has had a history of minor fraud and espionage, but it has only recently been swooped upon by the mainstream media. This is partly due to the much publicised case of the recently imprisoned American hacker, Kevin Mitnick, whose anti-heroics read like some romanticised mini-drama.

"I've been tagged cybercop, but I just think of myself as a prosecutor who's doing computer crime work."

ILLUSTRATION BY PETER BROWN

In 1991, computer crime units in America reported one instance of computer trespass per day. By 1992 this had trebled. In 1993, annual financial loss through computer crime in the US and Western Europe was estimated at around $140 billion. However, the resources to curb this growth have still not been forthcoming.

Sergeant McMahon from the San Jose Net police estimates there are only around a thousand people patrolling cyberspace in search of crime. His unit of four 'hi-tech' investigators is the biggest computer crime investigation unit outside the FBI, but as well as being a medium for committing crimes, the Internet can also help with investigations. One of his officers, Keith Lowry, explains, "We have used the Internet to detect burglary where stolen property was offered for sale on bulletin boards, to track down people, and to get information. People even email leads."

CRIME STALKERS

Inevitably, Internet crimes break down into the same categories and are prosecuted under the same legal framework as other crimes. For example, many existing laws, including that of assault, can be used to charge people who 'harass' others via the Net, although some US states have instituted highly specific laws which attempt to make it easier to prosecute various types of 'harassing' activities, such as 'stalking', where an assault case would be difficult to prove.

Robert Carolina, Internet specialist at international law firm Clifford Chance, says, "In an assault case you don't have to harm the victim you just have to threaten to harm them in a way which puts them reasonably in apprehension." However, he goes on to explain that matters are certainly not clear cut. He says, "It is an offense under the Obscene Publications Act to transmit obscene material via the telecommunications system, but this is not directed specifically at people who are threatening others.

Libel

IN AUGUST 1994 Englishman Dr Lawerence Godfrey, a former nuclear physicist in Hamburg, issued a writ against former colleague Phillip Hallam-Baker, a researcher at Cern (the European particle physics laboratory in Geneva), for alleged defamatory comments about his professional work made on the internet last year. No date has been set, but if the case goes to trial in London it will be the first in the UK alleging defamation on the Internet.

The Telecommunications Act 1984 may impose additional requirements upon the various uses of telecomms systems, including electronic mail systems."

STRONG ARM OF THE LAW

Illegal pornography is one of the most serious, and high profile, crimes which may be perpetrated via the Internet. However, West Midlands head of the (Virtual) Vice Unit, Inspector David Davies, knows of only two UK Internet police departments, including his own, whose job it is to look out for child porn, child assault and hard core porn.

"US customs sent over some people to help because basically we couldn't get anyone over here. US police are more conditioned to computer crime," he comments. He sites some of the problems relating to tracking down paedophiles as, "Once people meet on the Net, and know who each other are, they get off. We want to keep them on there as long as possible." There are further complications when paedophiles go into encryption. "We can decode it, but there are passwords."

Scott Charney, head of the Computer Crime Unit at the US Department of Justice says, "Distributing child pornography is contraband. It doesn't matter if you claim, 'I have a freedom of speech right to distribute child porn.' The answer is 'No you don't.' If you're talking about paedophiles luring young kids to come and visit them for purposes of sex, we investigate and prosecute those cases very vigorously."

INTERNATIONAL RESCUE

He goes on, "I've been tagged cybercop, but I just think of myself as a prosecutor who's doing computer crime work. The rules are the same, you're still a prosecutor, you still have to follow the constitutional and legal rules, and the rules of evidence."

Worldwide publication of Internet-relayed information means that the plaintiff can sue the country of his choice. English laws make it easier for the plaintiff to recover damages. "If you carry something defamatory unwittingly ...you have to prove you were not at fault," says Nick Braithwaite, media

Assault

IN THE USA 1994, Andrew Archambeau (32) became the first person to be prosecuted under a Michigan Law which prohibits stalking in Cyberspace. He'd first met the women (29) through an off-line video dating service and became quickly infatuated. They'd been in contact by telephone and later conversed using email through the American Online computer network. Between February 17 and April 24 he sent her around 20 messages. The woman contacted the police after Archambeau left a message on her answering machine saying "I stalked you for the first time today". Although he had waited outside her workplace, he insisted the message was a joke. A few days later he was arrested and charged with stalking. If convicted he could face up to a year in prison and a $1000 fine.

IN FEBRUARY THIS YEAR, an American student Jakob Alkhabaz (20) (better known as Jake Baker) published rape and murder threats on the Net. Postings read: "Torture is foreplay, rape is romance, snuff (killing) is the climax", and, "just thinking about it doesn't do the trick anymore". He used the name of a female student who was believed to have been made aware of the statements before his arrest. She saw them as threats rather than fiction. He was charged with the interstate transmission of a threat and could receive five years in prison.

Hacking

IN 1988 Kevin Mitnick gained unauthorised access to Digital Equipment Corporation systems via the Internet. In 1992 he was charged with computer fraud and defrauding the company, MCI. He was sentenced to one year's incarceration, six months in a program of mental health care, and three years supervised probation. His partner Di Cicco was sentenced to five years probation, ordered to pay $12000 in restitution (damages) and to perform 750 hours of community service.

Mitnick failed to appear for compulsory treatment and was reported as having gone on the run. A two year chase ended in the capture of Mitnick when, last Christmas, he hacked into the personal computer of Tsutomu Shimomura, a Japanese Detective employed by the FBI to combat computer fraud. When the two met in court Mitnick said "Hello Mr Tsutomu I respect your skills".

Most recently he allegedly played havoc with the supposedly locked computer systems of some of the best-known names in corporate America including Motorola, NEC, Nokia and Apple, yet pursuers have been mystified by his lack of interest in the potential spoils of his genius. His one indulgence appears to have been in changing the last three digits of his telephone number to 007 and routing his bills to James Bond.

He was arrested in Raleigh Carolina in early 1995 due to an outstanding warrant for a probation violation in Los Angeles, and he is charged with violating two different fraud statutes; accessing private, and Governmental computer networks. He waived a preliminary hearing, and is awaiting Grand Jury action. He is expected to go to trial in the Eastern District of North Carolina, presided over by Judge Cohn, in three to four weeks.

AN INTERNATIONAL $100M telephone fraud was traced to Britain last month. A gang of phreakers (phone hackers) headed by Omar Flatekval, used electronic bulletin boards to steal, and later sell, calling card numbers (similar to the BT charge card system) giving users free international calls. The £11m British inquiry has involved nine arrests so far. The Northumbria police fraud squad say that there are indications that the Internet has been used – one person claimed to have found the numbers on the Net, accessed from his university – but the Internet is not directly involved in the police enquiry.

Paedophilia

IN BRITAIN the first prosecution over the alleged use of the Internet for pornography is to be brought against Alban Fellows of Birmingham and Stephen Arnold of Milton Keynes. They will appear at Birmingham magistrates court on a total of 18 charges, under the Protection of Children Act 1978, Obscene Publications Act 1959, and the 1994 Criminal Justice Act which widened the definition of publication to include computer transmission. The investigation unit, led by DI Davies, was contacted by US customs saying they'd identified a site in the UK.

IN AMERICA, Donnel Hughes conversed electronically with thirteen year old Martin. His proposal, 'Lets meet' was all Sergeant Jim McMahon from the San Jose police department needed. At the agreed rendezvous Hughes was arrested and sentenced to five years probation.

lawyer at Clifford Chance. US law states the opposite – the plaintiff has to prove the defendant is guilty.

Robert Carolina adds, "Under UK defamation law there is a strong argument that the carrier is liable along with the author and editor, but this has never been tested in the courts.

"I believe that the law should draw a distinction between people who have editorial control over content (such as authors) and people merely involved in the carriage of content.

"There is an 'innocent dissemination defence' under UK law, but it is fairly weak. My understanding is that the Government is examining a proposal to expand the scope of this defence."

"We have used (the Internet) to track down people and to get information. People email us leads."

CRIME AWARENESS WEAK

However, there are further complications. It tends to be difficult to prosecute crimes on the Internet because it seems senior law enforcement officers aren't really aware of the problem. As Detective Inspector Davies says, "Our force is one of the few with an understanding of the Internet." There also seems to be an unwillingness to commit resources to something which doesn't leave behind much visible evidence. Traditional offenses like burglary are still top of the list and, says Davies, "The courts are just confused by it. I don't think they understand the concept."

Scott Charney comments, "This isn't going to work unless we pool our efforts because one country cannot do it alone." The FBI has been working with Scotland Yard and MI5, as well as investigative agencies in Canada, Australia and Europe and as a result of the G7 convention in Brussels, representatives seem to be starting to recognise that existing regulatory approaches are no longer appropriate. In Britain, the Internet Ethics Collaborative Open Group has been set up to discuss governmental attitudes and the EFF (Electronic Frontier Foundation), which is concerned with protecting individuals' rights, says the growth of the Internet will require "new technical and legal expertise" and "an understanding of the nature and needs of the...communities they'll be policing".

Law-breaking on the Net raises many issues, from intellectual property rights, to freedom of speech, and access providers' responsibilities. These are the problems that each country will have to sort out and, as Scott Charney says, "We need to ... apply existing rules to new technology in a meaningful way, and where the rules and laws don't work we need to devise new ones."

Cliona O Conaill is a freelance journalist

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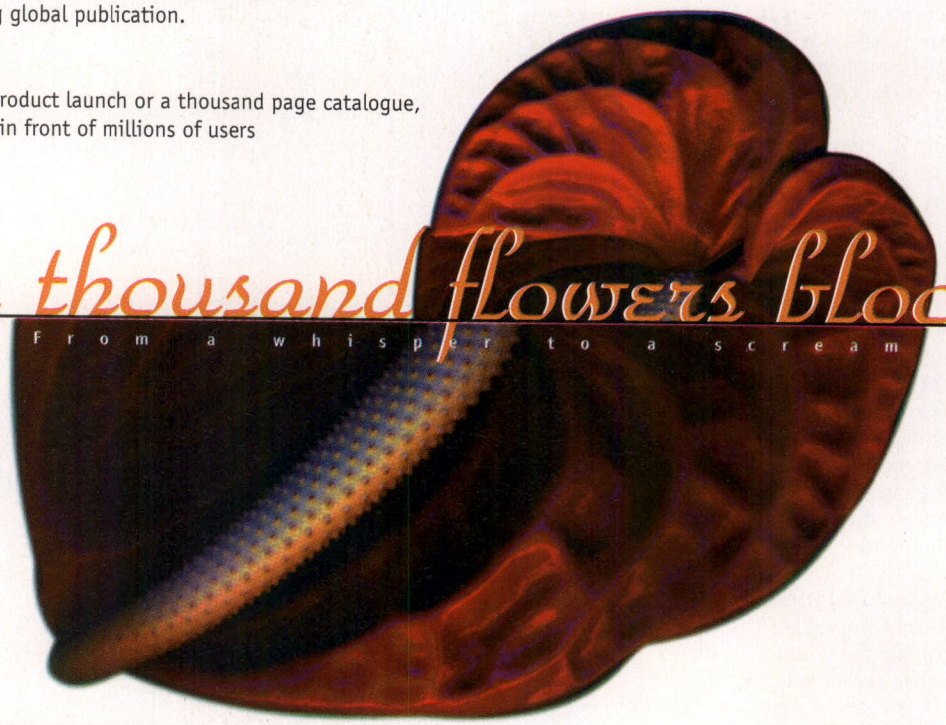

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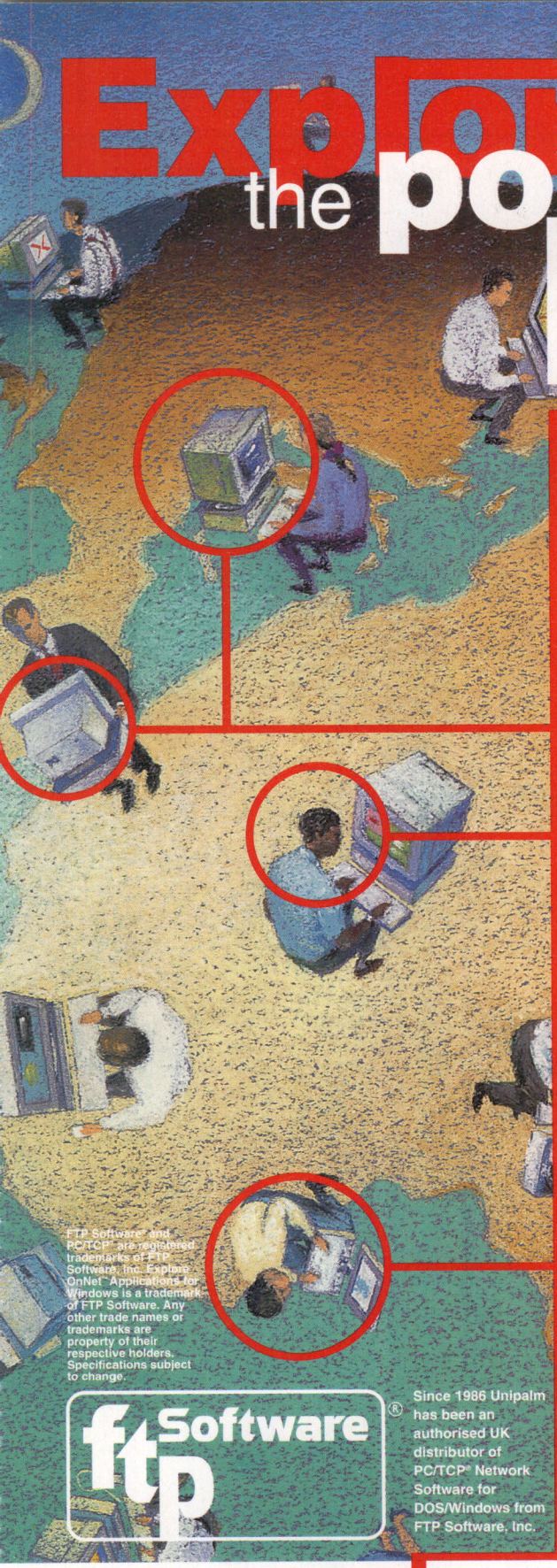

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Case studies

Different aspects of Irish culture – all featured on PaddyNet

SELLING IRELAND TO THE IRISH

CULTURE

Eamon Hession, rock 'n' roll entrepreneur, MBA graduate and self-proclaimed Internet magnate, is proud to be Irish and proud to call himself a Paddy. "Some people are really offended by it. It has divided people, but I want to re-invent the term," says Hession, who also wants to reclaim all those late-80s émigrés from his native shores who left for London, Sydney and San Francisco. He plans to do both with PaddyNet (http://www.paddynet.ie/), a new Web site dedicated to all things Irish.

PaddyNet, launched on 17 March (St Patrick's Day – when else?), keeps its ex-pat users up-to-date with news, music, film, fashion and pub talk from the old country, but for Hession, a former manager of Hothouse Flowers, this is a hard-nosed commercial enterprise.

The site has its own Green Pages, a directory where all those Irish émigrés who might otherwise lose touch with friends and family can find out about one another's antics. Users have home pages, which they can update regularly – for a fee of course. "I think people will pay for something like that," says Hession.

He is a great believer in the marketability of Irishness and is currently on the lookout for sponsors for the Web site. Guinness is among those likely to play a role in what Hession, coming on like a blarney Bill Gates, calls his search for a "global market niche".

Plans to promote PaddyNet include posting electronic postcards, to woo potential punters, to the four corners of the earth. A treasure hunt based around the Sweeney, a character from Irish mythology, has also been launched to keep visitors coming back to the site.

While Hession supplies the marketing skills (his MBA was in sponsorship), the technical nous comes from Simon Walsh, the Webmaster at University College Dublin. The two set up Webfactory, an Internet consultancy as well as the company behind PaddyNet, last December.

Some aspects of the site, however, hark back to a more innocent age. Attractions include Irish music with the Bothy Band and a history of those Dublin pubs which provided inspiration for literary giants such as Yeats or Beckett. In addition, there is a vast amount of information about Irish history, folklore and natural beauties.

Hopefully PaddyNet will prove more successful than Hession's last venture as a rock manager. Having lost the Hothouse Flowers when they left college and became famous, he persuaded Island Records to sign unknown band Star Club for "a huge sum". They then took a year and a lot of cash fine-tuning the first album but, Hession confesses, "Basically no one bought it!"

Richard Handford

FIRM HAND OF THE LAW

LEGAL

Two lawyers are sitting in an Indian restaurant. One of them comes up with a way to give legal advice – for free. This sounds like a joke but isn't as top international law firm Denton Hall has just set up a legal advice spot on its World Wide Web pages (http://www.gold.net/denton/). It is also offering a free bottle of champagne to the person who comes up with the best lawyer joke!

Nicholas Higham, IT and telecommunications specialist at Denton Hall, devised the idea over a curry. He says, "We spend a lot of time talking and advising on telecommunications. It seemed absolutely right to be on the World Wide Web as many of our clients are."

Denton Hall is a pretty swank firm. It has the largest media and entertainment practice in Europe and is one of the leading advisors on IT, telecomms, multimedia and the Internet. "We were appalled to realise someone was ahead of us [arch rival Clifford Chance went online in January] and we knew we had to make our Web pages the best," he remarks.

The site is a mixture of lists (contacts, publications and seminars) and handy links to other sources of legal information (UK central government, the EC, Welcome to the White House and the World Bank) – the kind of stuff that gets you interested in politics and democracy for the first time!

There's also a series of well written, easily understood articles for anyone who's into the Net. "We tried to avoid frightfully serious things with footnotes as I wouldn't expect anyone outside academic and legal institutions to read them," explains Nick. "What's of much more value are high level articles on the principles that underpin these new mechanisms of communication."

Nick himself has written an excellent piece on the digital market, prefaced by an apposite William Gibson quote which reads, "The notion of information highway is a bogus metaphor – what they are offering is a lot more like a [shopping] mall." The article outlines the kind of legal issues currently on the Internet business agenda. It also highlights the major role lawyers, not just service providers, will be playing as estate agents in the virtual property market of the future. Copyright on the Net can no longer be ignored.

Denton Hall's Internet legal eagle Nick Higham

"People talk grandly of film rights...What's the difference when you're talking about the rights to make an interactive CD-Rom?" comments Nick.

Lawyers are likely to become more and more involved in what happens on the Net but Denton Hall recognises the importance of a sensitive approach. "We understand the ethos, which is giving more than taking...We rather like the idea of the legal agony aunt column where we can give a basic level of advice."

If you have any legal problems you can send your email queries to denton@cityscape.co.uk, and, adds Nick, "Whatever some of the other partners might think, we are prepared to advise completely free."

Tamsin Hughes

HOOKED ON CLASSICS WORLD

MUSIC

Way past lunchtime and Robert Bourne, creator of Classics World (http://www.classicalmus.com), is surviving on coffee and Marlboros. He's restless to get on with adding two more composers to his site and is knocked sideways by the quarter of a million hits Classics has had in the three weeks since it's been online. "Gee whizz I love this stuff!" he says

Robert came to the Net as a user and a classical music fan but, after checking out a few newsgroups, he got frustrated because "There wasn't anything that offered a remotely comprehensive resource." Fortunately, he is also product manager of BMG Classics, a US record company with a solid reputation and a catalogue of labels which includes Deutsche Harmonia Mundi, as well as contemporary music specialist, Catalyst. The answer, he decided, was to "create a domain that was valuable not only to classical music aficionados but also to those coming into it for the first time."

He continues, "If you provide information it has to be good. If you provide audio, it has to be good." All the 300-odd audio clips are in MPEG format and are sampled at 16-bit, 44.1kHz; what Robert describes as "best quality, top notch fidelity".

Although the Catalyst audio area is heavily trafficked and a significant amount of users do download clips, there is plenty more on offer. A comprehensive spread of biogs, histories, synopses and discographies caters for everyone, from the casual Classic FM listener to the obsessed opera queen. Alongside star profiles (Mario Lanza was once a truck driver) and composer case studies (Bizet died of a blood clot) there are mini-movies

and more opera plots than *Inspector Morse*. The ability to view every sleeve in the CD record store may appear superfluous, but not once you've seen the afro modelled by Leontyne Price as Carmen.

The highbrow world of classical music might seem an unlikely milieu to find favour on the Net but Robert Bourne knew what he was doing, although, he says, "It didn't seem that way to a lot of folks!" From research he found that, ironic as it sounds, "Classical fans are early adopters of new technology and the core classical music audience is computer literate." However, he adds that "Intuitively we just knew."

In marketing terms the Net has obvious advantages and the promotional people at BMG need consumers to hear what they are selling. "Our initial priority is getting to the ears of interested people; our second is to develop a layer of business – the unit sale." However, at present if you want to get hold of a CD you are rather sweetly told to call a freephone number or visit your favourite record store.

As soon as the technology is available Robert also hopes to hold a Masterclass on the Net and some of his recording artists are keen to take part.

Design and technical expertise for the site came from US online presence provider, Onramp. Robert says, "I'm a big fan...I worked on the principle of 'wouldn't it be neat if?' and they really made a concerted effort to understand the thought process. I think it shows."

Tamsin Hughes

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Public Investigator

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They say there's information everywhere. At your fingertips. But people don't know. I mean they know that it's there, but not where to look. That's where I come in. People hire me, people who need information.

I'm anonymous, unseen. That's how it should be. I bade farewell to that office, cockroaches, dust and

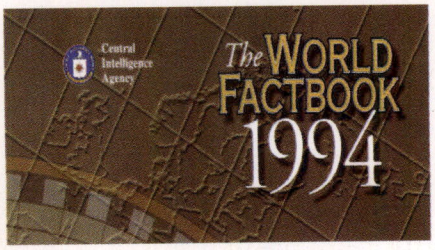
unscheduled visitors. They've pulled it down now. A car park, a car park for a shopping mall. I'm just a mailbox now. They ask questions, I give answers.

People think what I do's exciting. It's not. Detective work has always been the same routine, be thorough, ask questions, be invisible.

I'm always straight. I always was straight. I never went to the school that taught clandestine searches, lock-picking or lying. I got results, but I got them legally. I still do. No hacking, no eavesdropping, no secret addresses. Yes, I get results, which is why they keep asking questions.

Take last Friday, a john's going out east on Monday. Wants to know all about Hong Kong, wants to know tomorrow. Typical. Friday when the Web's congested. I knew I'd be burning my modem into the dark.

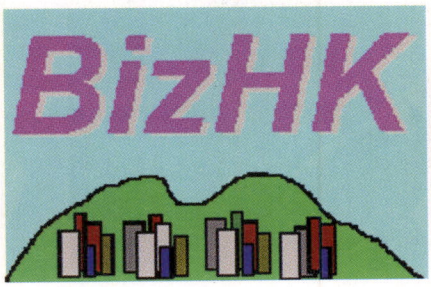
Inventory. We're after flights, hotels, germs, the good guys and the others. I burned two cigarettes waiting for the connection. They call



themselves Demon, and they're my nightmare. But I'm not rich, a poor man's service for a pauper.

First talk to the agency. Things are better between us now. They know everything there is about every place on this earth. Say what you like they're thorough, you have to respect them for that. General information, you know, population, transport and the like. Good background stuff but it's in that dry CIA-speak, those guys ought to have a drink sometime, loosen them up. [http://www.ic.gov/94fact/country/108.html]

I've a good snout. Goes by the name of Yahoo – strange kind of name I know but hey, who am I to criticise? Each to their own. Knows everything that's available on the Net. Spends ages just cruising, seeing what's happening, who's doing what, where and how to talk to them. I ask about Hong Kong and get some useful pointers. [http://akebono.stanford.edu/yahoo/Regional_Information/Countries/Hong_Kong]



So, there's a reliable snout over in Hong Kong, on the Web. Business info, contacts and other droplets. And I've got a new address to put in my book. That's what this business is about, contacts. People who'll believe they owe you a favour. [http://www.hk.super.net/~rlowe/bizhk/bhhome.html]

Travelling makes you tired. You need a good bed. Not some gin-soaked mattress in the twilight district. Talking to the same server supplies good beds. [http//www.hk.super.net/~rlowe/bizhk/comp/hotel.html]

This John's a squealer. Doesn't like danger. He'll ask if it's safe. Safe? What's safety. I'll tell you, it's a .38 under your shoulder, that's security. You know some people criticise the government but they've got this good information on countries it's safe to go to. Let's see what they say about the situation. [gopher://gopher.stolaf.edu:70/00/Internet%20Resources/US-State-Department-Travel-Advisories/Current-Advisories/hong-kong]

They've sickness out East. Diseases. You see 'em. Typhoid, cholera, you know. Better find out if injections are needed. Dead clients don't pay their bills. Out on the Web there are quite a few useful places you can go to get this type of detail, and you don't even need insurance to ask. [http://www.moon.com:7000/1h/travel.health.html]

He'll want to go sight-seeing. I can tell him the sights. Wanchai – that's the sights in Hong Kong. But he's a family man. Clean, you know. We'll ask the Virtual Tourist, generally knows a little about each place. Enough if you've only got a few hours. [http://wings.buffalo.edu/world/vt2/] or [http://www.city.net/countries/hong_kong/] or [http://www.infolink.net/hongkong/hongkong.html]

Is it warm? he asks. We'll send him some surveillance. Camera in the sky. Weather picture. For other places you can get detailed forecasts from a number of sites. [gopher://life.anu.edu.au:70/I9/weather/globelast.gif]

Finally, the flights. For this I needed to find my Telnet program. As always hidden. Found it under a Netscape icon. Sulking. Go to pctravel.com, it's like a travel agent without the sugar candy smiles. Same airlines, same seats and the prices the agent don't tell you about. They'll even take your booking, tickets come overnight if you're in the States. [telnet//pctravel.com]

You see it's all there, it's just knowing where to look for it. Of course the one thing it never said was the beer in Kowloon's as tasteless as a platinum blonde.

If you need my help just mail me.

Cybersleuth

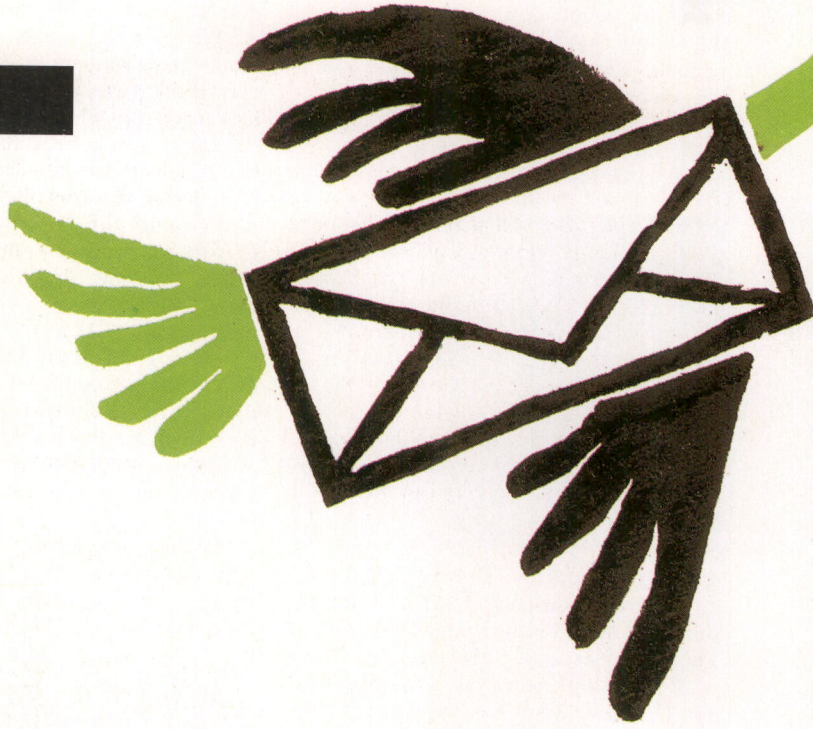
How do I get

Everyone else is doing it, you don't want to be left Well, start here with the easy-to-follow INTERNET

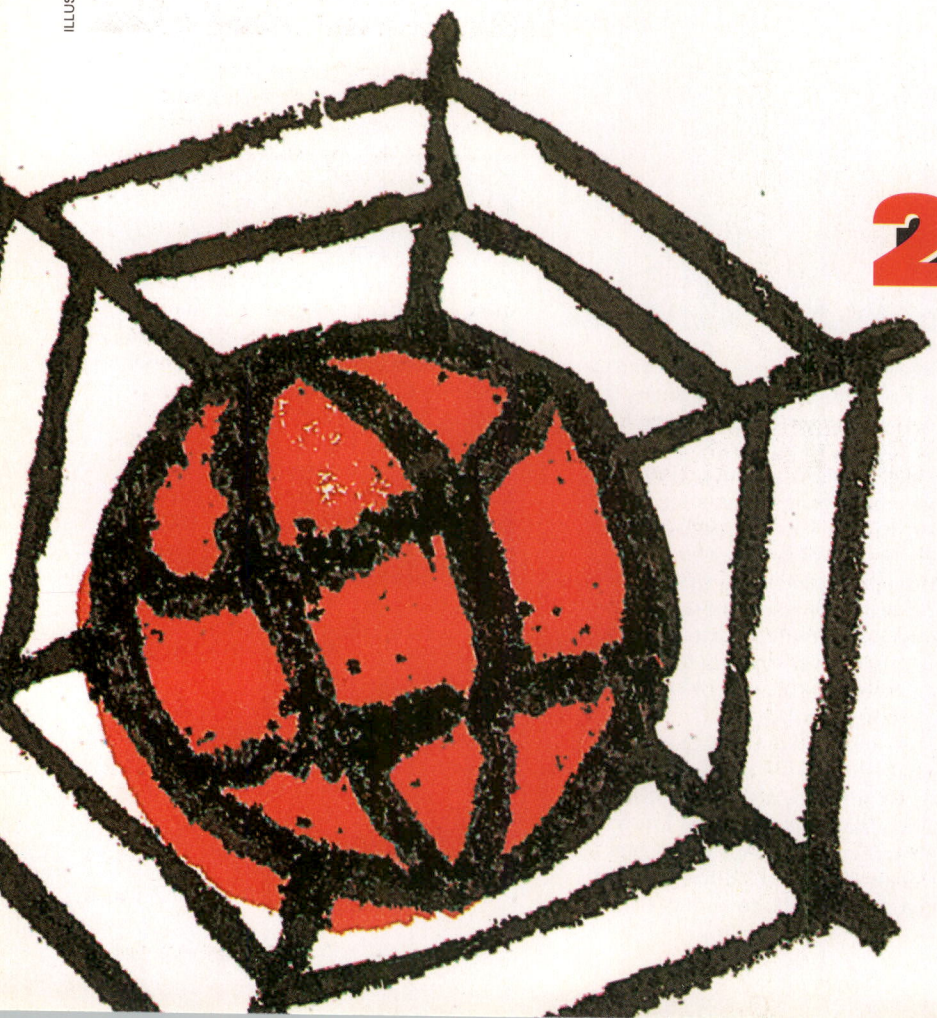
1 What is the Internet?

The Internet is a global computer network made up of hundreds of smaller networks linked together by the international telephone system. These networks are run by governments, academic institutions and corporations. Individual users or smaller companies link in to this matrix of networks by connecting to the nearest node, again via a phone line.

Estimates of how many people are connected to the Internet vary wildly but the present figure is around 30 million. The Internet is growing at a rate of 10% a month and, if current predictions are to be believed, by the year 2010 everyone, certainly in developed countries, will have a connection.



ILLUSTRATIONS BY DANIEL PUDLES



2 What's in it for me?

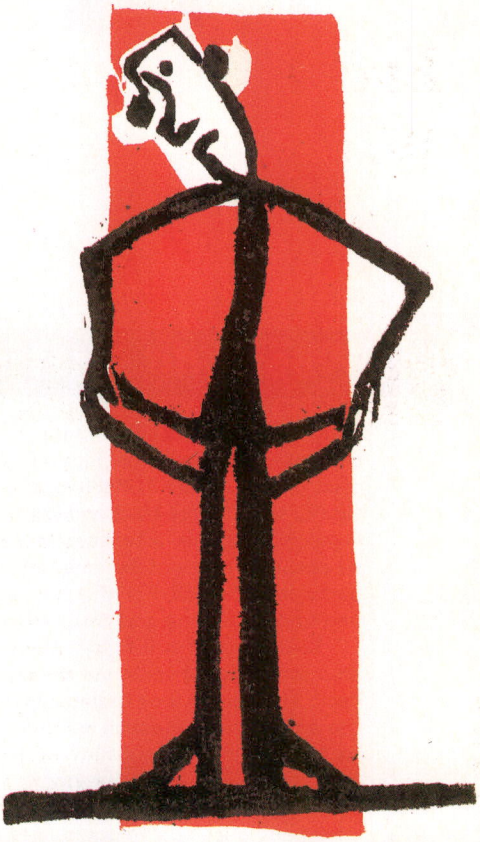
Initially, most people want to be able to use the Net to send and receive messages by electronic mail – everyone on it has a unique email address and so, once connected, you can communicate with them all.

It also offers the opportunity to participate in discussion forums – called Usenet newsgroups – on thousands of topics. Newsgroups are also a good way of gathering and disseminating news (see page 87 for more information).

The most hyped part of the Net, though, and what draws most people online, is the World Wide Web (see the listings which start on page 47). This allows users to publish multimedia pages – containing text, graphics, sound and video – for other people to view. An incredible range of individuals, organisations and, increasingly, companies now put up pages.

connected?

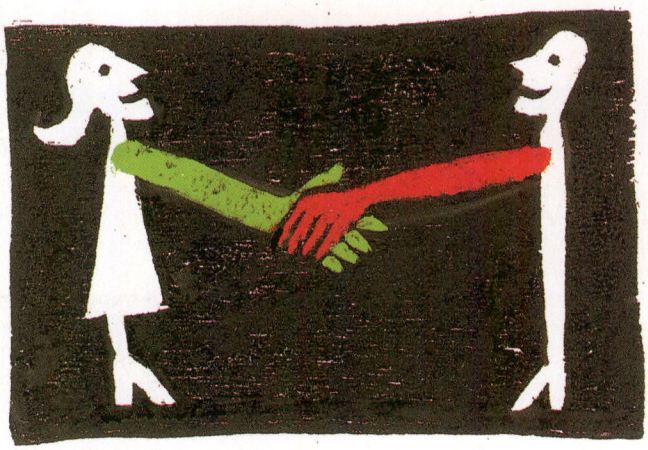
out, but where do you start? beginners' guide to going online



3 How do I become part of it?

If you know someone with an Internet connection, ask him or her to demo the Net, showing you what it looks like and what it can do. They will also be useful for technical support once you make the decision to connect. Alternatively, if you are lucky enough to live near a cybercafé, pop down there.

Having done that, you will need to get the right hardware and sign up with an access provider (see the listings on page 107), which will handle the local link from your computer into the rest of the Internet. The important thing to remember here is that you only pay for your section of the Internet. You will be charged for your connection, but this should only ever be a local call into the Net, whether you are sending email to High Wycombe or video-conferencing with Hong Kong.



4 What will it cost?

The more powerful your computer and the faster the communications link between you and the next point on the Internet, the better.

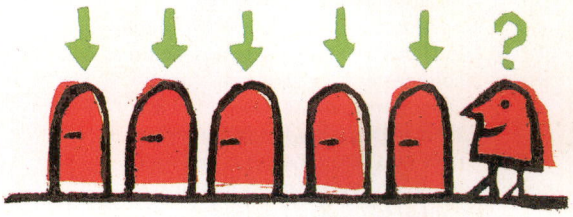
Of course a good system costs money, but the pay-off is that the faster your comms link, the less time you spend online downloading messages or data, which means you'll save money on phone bills. You will also have to pay your access provider a set-up fee and a monthly charge.

When choosing an access provider, it's important to go for one that has a POP (point of presence) close to you. A POP is the network node where you link into the Net and, if it's nearby, you only pay local phone charges (see the POPs chart on page 109).

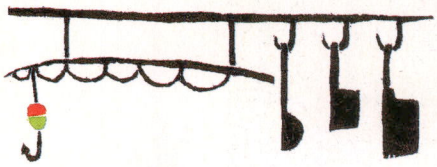
5 What sort of access do I want?

There are a number of different Internet services. Which one you choose depends on whether you just want email facilities, whether you want to be able to use newsgroups as well (ask for a UUCP connection), or whether you want full access, including the World Wide Web (you need an Internet protocol or IP connection for this). Full access starts at about £10 a month, but you might be better off spending around £25 a month, with support thrown in. NB: A bulletin board system (BBS) connection gives you limited email and newsgroup facilities but not a direct link to the Internet and thus no World Wide Web access.

Before approaching an access provider it's essential to think about a domain name – what you want your email address to be. Choose something short which says who you are, so queen@winsor.co.uk is a good one; elis.sec@win.cas.qofe.co.uk isn't!



6 What equipment do I need?



The basics are a computer (any type will do but most people use a PC or a Mac), a modem and a phone line. However, the minimum specification you should really be looking at for Web-browsing is a 486 PC with at least 4Mb of memory, colour support (preferably 256 colours), sound (either built-in or via an add-on card) and a 14,400bps modem (bps stands for bits per second – how fast the modem can transmit data). If you already own a slower modem, say 9600bps, you can still begin to use the Net – in fact this is a fine speed for email and newsgroups. A 14,000bps (V.32bis) modem can be now be bought for around £150, while the faster 28,800bps (V.34) modems will soon be under £200.

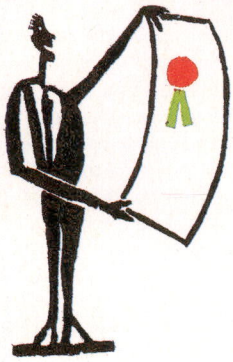
Companies may opt for an even faster ISDN line, instead of the modem/phone line. This gives faster access but the hardware and installation cost more – around £2500. If you are serious about Internet usage and have a lot of people wanting access from the same site, or you intend to offer services such as Web pages yourself, you might go for a dedicated leased line. This will cost around £10,000 a year, but the connection stays open all the time and there are no call costs.

7 Where do I get software from

Your access provider should furnish you with the software you need to get started, usually on a floppy disc. The basics are TCP/IP software (Trumpet Winsoc for PC, MacTCP for Mac) and PPP (Point-to-Point Protocol) software. After these are installed, you should be able to run any of the commercial or shareware packages for email, FTP (file transfer protocol), newsgroup reading and Web browsing.

Your provider will supply many of these, but after that the best source of software is the Internet itself. The easiest way to get software from the Net is to use an FTP program such as WinFTP for PCs or Fetch for Macs. Many servers allow you to log into them by using the login name anonymous and your email address as the password. FTP programs are very useful and once you've got hold of one, try accessing ftp.emap.co.uk

8 What do I do when I am connected?



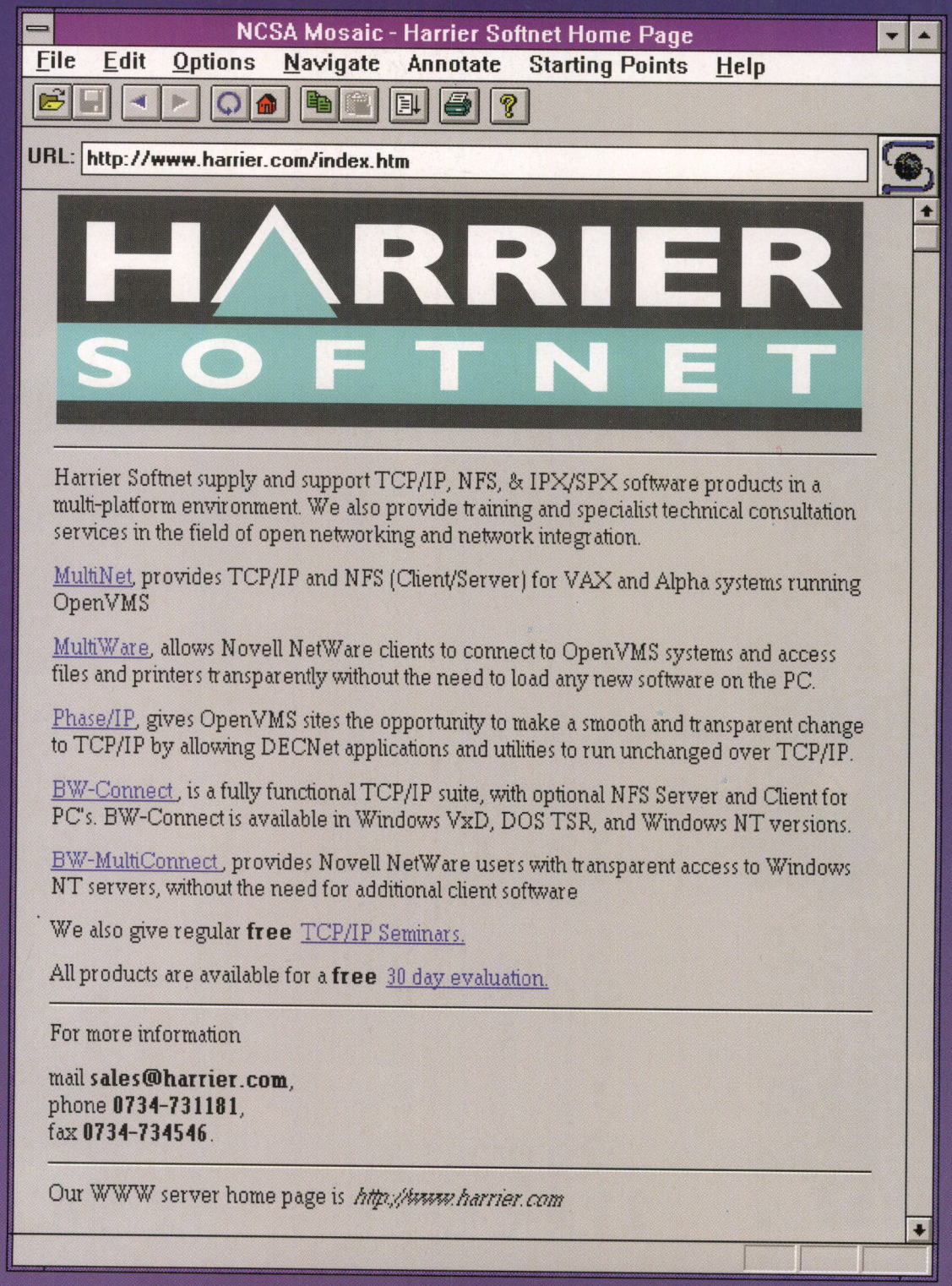
There's no doubt about it, the learning curve for using the Internet can be steep at first. Start by mastering email – to see whether you've got the hang of it send a message to internet@computing.emap.co.uk and put the words 'new user' in the subject line. If you've got it right, we'll send you a reply.

Learn about netiquette (the polite way to address other Net users) and read newbie documents (tips for beginners). If you have a question, check out FAQ (frequently asked questions) files. These are dotted all around the Internet, particularly in newsgroups. When you try out Usenet, sign up to just a couple of groups to start with, otherwise you'll be inundated with postings. Looking at Web pages ought to be straightforward using a browser like Netscape, but patience is sometimes required because, for reasons beyond your control, it's not always possible to locate a host and log on (see page 46 to find out why).

9 What can I do then?

Well, you can communicate with people all over the world, discuss philosophy, look at works of art of dubious quality, download pornography, check out train times in Garmisch-Partenkirchen, listen to college radio broadcasts, watch Disney movies, set up your own Web pages...The list is endless and, now you're online, so is the time you'll probably spend happily connected to the Internet.

.netkonect
Rapid and reliable Internet connections from Sprint International's European Reseller
FREE Internet access for 30 days without obligation
No joining fee
From only £10/month + VAT
Fast data transfer via the latest PPP software - FREE of charge to new users
The best Internet service on the market
CONNECT NOW
CALL 0171-345 7777
.netkonect - the only connection worth making



All company names and trademarks are recognised and duly acknowledged

What's on
Still the UK's largest, and most comprehensive directory of Internet sites
X-POSED
Agents Mulder
nd Scully take on
the real FBI
MUTATED MINDS!
ATOMIC BOOKS
DRUGS
FRINGE
TRASH
HELL
ATOMIC BOOKS · 229 WEST READ STREET
BALTIMORE, MARYLAND · 410·728·5490
TIMEX
ORGANIZER
FREELANCE
APPROACH
2-3
BBC

What's on

The following pages are the most extensive listings ever published in a magazine, but even so, they still represent just the tip of the iceberg in terms of what's out there. Each day hundreds of new pages appear, old ones disappear, and others move to better locations. Cyberspace is a virtual jungle with jewels in the most unexpected places. Seek and ye shall find.

If you have a favourite Internet destination and it's not listed here, email the address, together with what's special about the site, to whats_on@computing.emap.co.uk (subject: new sites). At the time of going to press all addresses had been checked, but things may have changed by the time you try them. Again, do let us know if you discover an entry has moved. Send new details to whats_on@computing.emap.co.uk (subject: new address).

WHAT IT ALL MEANS

Once connected to the Net, all addresses should be accessible via a multitude of common shareware and commercial browser packages, notably Netscape and Mosaic. If your service provider hasn't supplied these, see the box (right).

WORLD WIDE WEB

The majority of locations listed are World Wide Web pages – those with the http:// prefix. Some sites are highly graphics-intensive, so if you turn off the Load Images option in your Web browser or choose the text-only view, these pages will load faster. This is particularly useful for slow modems. It's possible to access at modem speeds as low as 9600bps, but we recommend 14,400bps as the entry level. Carefully enter the full address, eg http://big.fish.net/Blind~Mullet.html exactly as listed, including capital letters, into the Open Location dialogue box of your Web browser. When using Netscape you can leave off the http://

GOPHER

Gopher allows you to search through databases by simply choosing from successive menus. You can access these from your Web browser in the same way as World Wide Web pages, although a dedicated Gopher client can give better results. Unlike Web pages, which can contain links to anywhere on the Net, you will eventually reach the bottom of the tree. Key in everything after the Gopher: prefix. With a Web browser, like Netscape, precede it with gopher:// eg gopher://fetch.com/toothy

WHERE TO GET SOFTWARE USING FTP

The quickest way to get almost all the Intenet software you'll ever need is from the Internet itself. Most access providers will supply you with the basics when you sign up (see page 107), but you're sure to want more eventually. To get it you'll need an FTP package such as Winftp or Fetch.

The table below lists FTP addresses for some popular navigating, email and Usenet programs. To retrieve them by FTP, use anonymous as your user name and an email address as your password, and make sure you select the binary transfer option on your FTP package if it's offered.

Some of these servers – especially Netscape's – get very busy, particularly in the afternoons, so you may have to keep trying. After you've downloaded the files, it's important to look at any read.me files before installing, and to follow the installation instructions carefully.

We advise you not to try this on networked machines and to back up your system files. INTERNET can't, and doesn't, take any responsibility for the consequences of downloading any of the files listed in the magazine.

PC

Purpose	Package	Path
Email	Eudora	ftp.qualcomm.com ftp.red.net/pub/windows/comms/mail/
FTP	Winftp	ftp.cyberspace.com/pub/ppp/windows/ftp
WWW	Netscape	ftp.netscape.com ftp.red.net/pub/windows/comms/
	Mosaic	ftp.ncsa.uiuc.edu ftp.red.net/pub/windows/comms/
Usenet	Winvn	ftp.cyberspace.com/pub/ppp/windows/newreaders
Archie	WinArchie	ftp.cyberspace.com/pub/ppp/windows/archie
Gopher	WinGopher	ftp.cyberspace.com/pub/ppp/windows/gopher
Telnet	Telnet	ftp.ncsa.uiuc.edu/telnet/dos/

MACINTOSH

Purpose	Package	Path
Email	Eudora	ftp.qualcomm.com ftp.red.net/pub/mac/comms/mail/
FTP	Fetch	ftp.dartmouth.com ftp.red.net/pub/mac/comms/ftp/
WWW	Mosaic	ftp.ncsa.uiuc.edu ftp.red.net/pub/mac/comms/www/
	Netscape	ftp.netscape.com ftp.red.net/pub/mac/comms/www/
Usenet	Nuntius	ftp.red.net/pub/mac/comms/news/
Archie	Anarchie	ftp.red.net/pub/mac/comms/ftp/
Gopher	Turbo Gopher	ftp.cyberspace.com/pub/ppp/mac/gopher
Telnet	Telnet	ftp.ncsa.uiuc.edu ftp.cyberspace.com/pub/ppp/mac/telnet

FTP

FTP (FileTransfer Protocol) allows you to download any file from a remote computer onto your own. It may work from your Web browser, but it's much better to use an FTP package such as WinFTP, or Fetch. You can access at any speed, but the faster your modem, the quicker the transfer. Key in everything after the FTP: prefix. Depending on your software, you may have to put the path name (all the text after the first single /) in a different dialogue box.

CONNECTION PROBLEMS

So you've resorted to reading the instructions and it still won't work. You've carefully typed in the address three times but keep getting error messages. Don't despair, it happens all the time. There are two basic causes of errors: incorrect addressing and system failure.

Looking at addressing problems first, consider the address as having three parts. Reading from left to right they are: the protocol such as http://, ftp:// or gopher://; the domain name (everything before the first single forward slash); and the file location (everything after and including the first single forward slash).

Netscape is fairly versatile. You don't need to key in the protocol http:// and, depending on your configuration, you can FTP, Gopher, Telnet and access Usenet from the command line. Don't count on it, though, and if you have problems, try using a dedicated program such as Fetch or WinFTP. If they work, but you would prefer to run it all from your Web browser, you may need to tweak your set-up.

Chances are, if you get the error 'unable to locate host', you've keyed in the domain address incorrectly, the address has changed, the host is offline or you have a connection error.

First, verify that you are indeed connected to the Internet by connecting to a known address. If you succeed, you'll know the problem is specific to that address. You could try inserting or removing the www. prefix as this is a common address change. If the host is temporarily offline, try later.

If you get errors like '404 file not found', you have successfully logged on to the host computer but the file location you have specified either does not exist, has been entered incorrectly, or has been changed. You'll get this message a lot, but with ingenuity you can still find what you want.

Next, check the capitalisation. If the host has a Unix server, file addresses will be case-sensitive. What's worse, Unix programmers seem to delight in long file addresses filled with capitals, tildes (~) and underscores. After a while, they usually shorten them, thus creating a new location.

There are several ways to find the new location. Try adding or removing the slash (/) at the end of the address or log on to the host domain address (type in everything before the first single backslash) and browse through menus and hotlists. If that doesn't work try omitting the file name and then each subsequent directory up the path.

If you are getting errors such as 'connection refused by host' or things seem unusually slow, this may be a connection failure caused by your software, hardware, connection, line, provider or by heavy traffic.

Some servers are difficult to get on to in the afternoon and early evening and they may even be temporarily offline. Your access provider may be overloaded or you could have a noisy telephone line (do disable call waiting). In these cases, keep trying or go back later. One more insidious cause might be the Web software playing up. If you get refused from three sites in a row, reboot and try again.

IF ALL ELSE FAILS

If you really must find a site, go to Lycos, Yahoo, Harvest, the WWWW or any of the searching tools. Use the distinguishing words from the site's title as the search terms. Failing that, try searching on related subjects. Even if you still can't find what you want, you'll probably discover half a dozen similar, if not more interesting, pages.

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Access Providers

CITYSCAPE GOLDSITE EUROPE

http://www.cityscape.co.uk

Don't miss out on the more arcane corners of the Internet, but if you mean business this is an excellent place to start. You can access news (mostly ads), Internet information, back issues of the *Guardian* online and links to servers and services like the BBC Networking Club, Live at the ICA and Cyberia. Goldsite Europe looks good, feels solid and generally lives up to its claim to be 'your one-stop Internet information site'.

COMPUSERVE

http://www.compuserve.com

Patchy information designed to persuade you to join up with Compuserve.

DEMON INTERNET

http://www.demon.co.uk

The home page of the UK's largest and fastest growing provider is so slow to respond you may suspect your browser has crashed despite its recent hardware upgrades.

EUNET GREAT BRITAIN

http://www.britain.eu.net

The second of two major corporate Internet service providers, EUnet has strong connections with continental Europe. This page has a link to EUnet's main page, which then provides links to its European sites. It's a fairly spartan but unpadded launchpad to heavyweight commercial and media pages. The link to GBnet gives ample information about EUnet's UK presence.

NETWORK MCI

http://www.mci.com/

At every mouse click, keystroke and step through the virtual tour of Gramercy Press, this bloated advertising montage from MCI reinforces its corporate marketing plan. It's all wishy-washy, condescending, puffed-up hard sell and thus something we, intelligent consumers of the cyberage, tend to reject. If you can battle your way through the guff, you'll find no mention of cost, but you will find a two-month free trial.

PIPEX

http://www.pipex.net

Pipex's approach is certainly very business-like and the user is left in no doubt that this company intends to remain a major presence on the Internet. At first glance, there doesn't appear to be much else here, but if you access the worldserver, for example, you'll find several pages of extremely useful links, most with a heavy commercial emphasis. It's lean but relatively trash-free.

REDNET ONLINE

http://www.red.net

This is not as concise as, say, EUnet's site, nor as overflowing as Netscape's, but it does have a friendly, efficient and unthreatening English accent, which is very refreshing. There are three main sections. Local Services has announcements, items for sale and support groups, while the Laboratory has Internet information. Enter the Black Hole to be sucked into a void of movies, images and sound libraries, plus links to other general, academic and corporate Web servers. You can email Rednet at webmaster @rednet.co.uk

VOSSNET

http://www.vossnet.co.uk

Vossnet offers full Internet access via the Pipeline software. This client application works on a BBS as if it's a full IP connection. Vossnet is the first company to use Pipeline in the UK, although it's very popular in the US. It's a cinch to set up and just as easy to navigate through the point-and-click Windows environment. Download either of two PC versions of Pipeline for free, ten-minute trials. For full WWW access you'll need the larger pack and also at least 8Mbs of Ram. Under 8Mbs, you're restricted to the less visual aspects of the Internet such as FTP, Telnet, Archie, Gopher and email.

EASYNET

http://www.easynet.co.uk

This friendly page from the UK access provider Easynet is an easy introduction to surfing the Net for business and pleasure. You won't be bogged down with excess verbage; it's all simple and useful, particularly for newcomers. You can link to

UPDATE

BBC NETWORKING CLUB

http://www.bbcnc.org.uk/

This general information service on the BBC's broadcasting schedules and activities is growing at a meteoric rate. It seems every troupe in the Beeb's massive media circus is scrambling to find its niche on the Net. There's public access to TV and radio listings, educational resources, online projects, album charts and even Radio 1's playlist and rotation schedule. The links to, and explanations of, various Internet searching tools and browsers make this a useful starting point for beginners. For £5 you can join Auntie, the resident BBS, participate in conferences with programme makers, and access files and other information. Surprisingly, in light of its resources, there's still no decent news feed, but expect that to change soon.

What's on

various shopping, business and start-up sites or be sent straight to Cyberia.

Adult

ALT.SEX FAQ

http://www.halcyon.com/elf/elf_sternberg.html

Before you launch into showing your colours in the the Usenet alt.sex groups, it's a good idea to read this FAQ first. It covers all the Usenet behaviour and usage protocols, as well as a DIY sex education guide. There are also rigging resources, science fiction erotica, fantasy, and if you think pocket handkerchiefs are a fashion statement, the decoder might change your mind.

ALT.SEX.MOVIES HOME PAGE

http://www.xmission.com/~legalize/asm/asm.html

This page features lists, FAQs, movie reviews, fan club addresses, mail order sources, filmographies and other info relating to the sex flick trade.

BIANCA'S SMUT SHACK

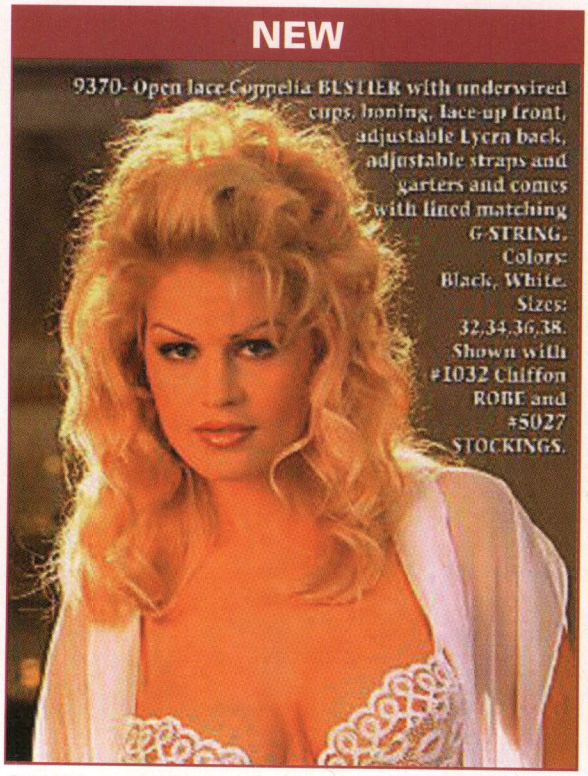
http://bianca.com/shack/index.html

This site – a clickable plan of a house – is an absolute labyrinth of surprises, trap doors and vulgarities. There are plenty of opportunities to add your own thoughts but make sure you read some of the other contributions, too – the masturbation forum is popular and full of frank confessions. The graphics are crude in more ways than one but to explain in too much detail would spoil the impact. However, be warned – the deeper you go, the darker and more revealing it gets.

BLOWFISH

http://www.best.com/~blowfish/

Blowfish is a mail order company specialising in what it calls 'sex-positive' erotic merchandise. You can access this via a paper or online catalogue and order by email. There's also a sexuality information centre featuring many links to sex-related documents and services.



STAGE CLOTHES

http://www.w2.com/stageclothes.html

You can order swimsuits, Doc Martins, leather teddies, chains, handcuffs, whips and other formal attire, from this online M&S – have them in time for your next stage appearance.

CONDOM COUNTRY

http://www.ag.com/Condom/Country

Mail order condoms, sex aids, books and humour, but the mere mention of the penis size ready reckoner may prove disquieting to some.

CYBER-SEX TOYS

http://www.webcom.com/~dml/sex/intro.html

There's nothing particularly 'cyber' about this selection of standard bump and grind accessories, except for the ordering medium.

KYLIE MINOGUE

http://www.eia.brad.ac.uk:80/kylie/

Provocative lyrics, sexy soundbites, explicit track listings, X-rated videos, lurid scans and access to every Kylie-porn resource thinkable. This one's in the adult section due to Ms Minogue's calculated raunchiness.

LIVE NUDE VIDEO TELECONFERENCING

http://www.cts.com/~talon/

It had to happen. Dial in, pay up, download the software and a private model will call you back. You'll intercept the call with your IBM-compatible PC to find her nude, live and waiting for your instructions. It's a fully interactive experience, but don't worry – she can't see you. Now you can learn about all those difficult-to-understand female organs without embarrassing your mother.

LOVELINK

http://www.cityscape.co.uk/lovelink/

Advertise or browse for a potential mate – to make contact you must phone a charge call service, using a pin code, and leave a message.

PENTHOUSE MAGAZINE

http://www.penthousemag.com/

Penthouse magazine's special Internet edition is so popular competing traffic can keep you out. Once you're in, though, you'll find a slickly designed professional ezine, with pictures and sections lifted from the paper edition. There's a, err, family toy department, as well. If you're only reading the ezine for the articles, it's a good idea to turn the graphics off to speed things up.

PLAYBOY

http://www.playboy.com/

A well-designed entry from this top shelf publisher featuring subscriptions, reviews, articles, merchandising, quotes and memorabilia. If you're curious to see what a girl would look like in the nude, you may find it instructive to download the airbrushed photograph.

POINT OF NO RETURN

http://zoom.lm.com/

A bundle of smutty links.

THE HAROLD PALMS COLLECTION

http://www.catalog.com/hpalms/

These pages are wholly devoted to those who enjoy the pleasure of their own company.

WEB PERSONALS

http://www.netmedia.com:80/date/personals.html

This free cyberdating and friendship service is cleanly organised by country and preference. It's lightly moderated and seems generally harmless.

YELLOW SILK

http://enews.com/magazines/ys/

These extracts and pictures from this 12-year-old erotic journal are aimed equally at women, you can expect more poetry than limericks and more paintings than pictorials.

Art

17TH DIGITAL PICTURE ARCHIVE

http://olt.et.tudelft.nl/fun/pictures/oldpictures.html

The pornography section of this massive digital picture archive recently closed down due to too much traffic, so now you'll have to restrict your downloads to images in categories such as art, paintings, comics, computer-generated, cars, aeroplanes, faces, nature, technology, space and others.

ANDY WARHOL MUSEUM

http://www.warhol.org/warhol

A good example of how to implement an online art gallery, Pittsburgh's Andy Warhol Museum has the advantage of only focusing on one artist's work. Tours of the physical museum and picture lists are on offer, but downloading at less than 14.4kbps will probably take longer than the paint took to dry.

@ART GALLERY

http://gertrude.art.uiuc.edu/@art/gallery.html

This digital art gallery has a new exhibition every six weeks, but don't worry, all the old ones are archived.

ART ON THE NET

http://www.art.net/

Here's a well structured place to post your own art or view the creations of others.

COMPUTER GRAPHICS

http://mambo.ucsc.edu/psl/cg.html

This is a heavy page to load. It's a collection of links to numerous computer-generated art resources, using distinct thumbnails as captions.

CONSERVATOIRE NATIONAL

http://www.cnam.fr

Of all the French features, the page entitled 'Femmes, femmes, je vous aime!' is worth a look, just for its randomness. Every time you reload the page a new bikini- or scantily-clad woman appears, for whatever purpose that might serve. Another feature is a nifty picture browser which takes files from newsgroups (such as alt.binaries.pictures.misc) and compiles them into online contact sheets.

HORROR, FANTASY AND THE GROTESQUE IN ART

http://www.ugcs.caltech.edu/~werdna/grotesque/grotesque.html

This exhibition of visual art sets out to expose and explore principle human anxieties such as fear, religion, paranoia, madness, torture, sex, death and war. There's nothing cheery here.

NEW

OFFWORLD METAPLEX

http://offworld.wwa.com/

The suit greeting you at the entrance would have you believe this is yet another Net mall. Perhaps it will be, but at this stage it's a commercial digital art gallery with the most vivid backdrops and Netcape 1.1-isms you're likely to encounter this month.

LE LOUVRE

http://mistral.enst.fr/~pioch/louvre/

A superb tour of Paris' Louvre. There are two exhibitions: famous pictures and a mediaeval art display. Paintings are classified by artist and, although not every work in the museum is included, there is an excellent selection of the most famous. You can even download the rather esoteric choice of accompanying music.

ORIGAMI

http://www.cs.ubc.ca/spider/jwu/origami.html

There are galleries, Gophers, Postscript diagrams, mailing lists and other paper-folding stuff, but still no paperless alternative to this popular Japanese art form.

OTIS

FTP: sunsite.unc.edu/pub/multimedia/pictures/OTIS

OTIS (operative term is stimulate) is an extensive, well planned, Internet art gallery. However, you'll need to be able to view compressed JPEG and Gif pictures to enjoy this wide range of photos, drawings, tattoos, raytraces, video stills, record covers, sculpture and more. "OTIS is open to all types of image-based expression," the creators say, and some of the material is indeed, err, exotic. To subscribe to the mailing list, send a message to otis-request @cwis.unomaha.edu

PERSISTENCE OF VISION

http://www.uio.no/~mwatz/pov/

Persistence of Vision is a popular shareware ray-tracing package which appeals to those who, rather than drawing, prefer to create images as a sum of their mathematical parts. By setting certain constraints such as surface texture, reflection, refraction and light source positions, objects can be replicated so closely that photographs can look phoney.

STEREOGRAM PAGES

http://mphh2.ph.man.ac.uk/gareth/sirds.html

This is a launch pad to a large number of sites featuring single image random dot stereograms. There's software, FAQs and plenty of advice as well. In no time, you'll be able to induce a migraine at will.

STRANGE INTERACTIONS

Gopher: amanda.physics.wisc.edu:70/11/show

An exhibition of prints, etchings and lithographs by physicist John E Jacobsen, some of which are superb. Check out the Cybersex sketch – it may not be what you expect.

THE ART BOOK

http://mmm.wwa.com/tab.html

The Art Book, a colour directory of British illustration, is available free if you qualify, or for the sum of £20 if you don't. See here for more details.

VIRTUAL GALLERY

http://www.atom.co.jp/GALLERY/

Modern art from Japan, including semi-racy photos by Hisayoshi Osawi featuring subjects in non-sensible shoes.

WRITING ON THE WALL

http://www.gatech.edu/desoto/graf/Index.Art_Crimes.html

A diverse collection of international graffiti art – useful ▶

if you're thinking of redecorating your bathroom.

Banks

BANK OF AMERICA

http://bankamerica.com

Locate your nearest Bank of America branch or ATM, apply for a job or read press releases. If you bank in California there is a special offer which enables you to access and manage your account online. This costs about $40 per month, plus a set-up charge, and will allow you to reconcile your books, monitor cheque clearance, transfer and stop payments and view your balance via your PC.

BANK OF IRELAND

http://www.webnet.ie/cust/boi/index.html

The Bank of Ireland was one of the world's first high street banks to experiment with reaching its customers via the Net. Unfortunately, this service has been discontinued, but watch this site for further news.

BARCLAYCARD NETLINK

http://www.barclaycard.co.uk/barclaycard/

This is as staid as you would expect from the UK's largest credit card company. Make sure you choose the text option as the pretty graphics are very slow to load, even at 64k. This service offers an online way of ordering brochures and complimenting the bank via a feedback form. The promise is serious online features such as credit card applications and help desk support, but at this stage it's just the stuff in the leaflet holders you avoid as you're waiting in the queue.

FEDERAL RESERVE BANK OF NY

Gopher:gopher.csc.fi/11/other/intedu/usg/money

This Gopher site gives fairly current information about the Federal Reserve Bank of New York's spot exchange rates, as well as documents on other FRB and Treasury statistics, such as historical money stock data and Treasury yield curve data. There is also a document of exchange rate trends. Keep your calculator handy, though.

NEW

ATOMIC BOOKS

http://www.clark.net/pub/atomicbk/home.html

The bizzaro director John Waters recommends this Baltimore shop for its insane books about every kind of extreme. It's also a great place to order oddities online.

FIRST UNION CORPORATION

http://www.firstunion.com/

There's only credit information, product material and press releases here, but First Union is welcoming advice on which services it should offer over the Internet. If it's not available and you want it, use the form and ask for it.

VISA

http://www.visa.com/visa/

Find out about the future of Visa, electronic banking, its product range and your nearest ATM. Will Visa succeed in achieving 'one world, one currency – Visa'. Keep watching this spot.

WORLD BANK

http://www.worldbank.org

This is a good example of how a publicly-funded international body can make its work more widely available. There are complete lists of the reports available, from Rainfed Rural Development in Morocco to Stabilisation and Adjustment in Argentina. Unfortunately, at the moment it's not possible to get entire documents. There are abstracts and keyword searches, but to get the complete information, you're referred to your local World Bank office, which seems like a missed opportunity.

Books

BANNED BOOKS

http://www.cs.cmu.edu:8001/Web/People/spok/banned-books.html

This exhibit of controversial books is presented by Carnegie Mellon University, where the administration recently removed more than 80 sex newsgroups, a matter still contested by the students. You can find out which books have been banned or come under attack, and why. Some titles, like *The Evil Tom Sawyer*, include contentious extracts. Many will regard a number of these titles as essential reading.

CAMBRIDGE UNIVERSITY PRESS

http://www.cup.cam.ac.uk

As well as the standard online catalogue and publishers' details, there is information about future titles, such as the *Cambridge Encyclopedia of the English Language*.

ELSEVIER SCIENCE

http://www.elsevier.nl

Elsevier claims to be the world's leading supplier of scientific information. On board is a comprehensive list of journals, publications and multimedia products, plus news of forthcoming releases, along with reviews and ordering facilities. Links include an excellent science Gopher and the WWW 94 conference proceedings at CERN.

FUTURE FANTASY BOOKSTORE

http://www.commerce.digital.com/palo-alto

The Future Fantasy Bookstore specialises in fantasy, horror, science fiction and mystery books. You can browse in the store, get samples of old and new material, and look at the exotic cover art associated with this type of literature. At present the bookstore is not accepting payment via the Net for security reasons, but expect it to introduce an online service in the near future. The store can be emailed at futfan@netcom.com

KEGAN PAUL INTERNATIONAL

http://www.demon.co.uk/keganpaul/

This is another dreadfully slow Demon site, but we're told that things will speed up soon. The major educational publisher Kegan Paul is making its entire catalogue available for international mail order and it specialises in works on, and from, the Middle East, Africa, Japan and Asia. There are also some quite interesting snippets of news from around these regions.

LAISSEZ-FAIRE BOOKS

http://www.xmission.com/~legalize/lf/Laissez-Faire.html

Laissez-Faire has been a source of libertarian books and tapes for 20 years. It offers titles by the likes of Ayn Rand, Thomas Jefferson, Ludwig von Mises, PJ O'Rourke, Milton Friedman, Thomas Szasz and, of course, Adam Smith, on topics like education, drug policy, gun control, objectivism, free marketeering, economics and humour. You can email order these titles from anywhere in the world.

MACMILLAN USA

http://www.mcp.com/

The Macmillan USA Information SuperLibrary goes further than most publishers, by not only providing a searchable database of titles, new releases and discounted email orders, but by putting searchable contents pages and full chapter samples for many of its thousands of volumes online. What's more, you can also download copies of any of the software which is included with the company's computer titles, here or from the Macmillan FTP site.

ONLINE BOOKSHOP

http://www.bookshop.co.uk/

It claims to be the biggest online bookstore in the world, with over 750,000 titles available, and that's without all the other bookstores it's linked to. All are cross-referenced by subject, with brief synopses and links to other related material. Some of the books are available through the shop's central ordering mechanism, while others can be obtained from the publishers.

WYVERN BUSINESS BOOKSHOP

http://www.cityscape.co.uk/users/ab96/

Use the Internet to buy direct from Wyvern's catalogue of business books.

Business

AFRICA COMMERCIAL

http://www.africa.com/

This Cape Town service promises to encourage business with and within the newly acceptable South Africa. The facilites are in place, but at this stage not many have taken up the offer. If you want to do business in this region, or are curious about opportunities and protocol, it's an inexpensive place to put out feelers.

ASIA ONLINE

http://silkroute.com/silkroute/

This silk route to Asia promises to open up the digital doors to Asian travel, Hang Seng movements, stock price/earnings ratios and commerce in general.

COMMERCENET

http://www.commerce.net

CommerceNet is a consortium of US Silicon Valley companies which have come together to create an electronic marketplace. These extensive Web pages track the development of that interesting enterprise, with thorough and detailed examples of applications. This is absolutely essential reading for anyone who is looking at the Internet from a professional point of view – the future of doing business on the Internet will probably happen here.

CYBERPRENEUR'S INTERNET GUIDE

http://asa.ugl.lib.umich.edu/chdocs/cyberpreneur/Cyber.html

A massive and crucial collection of links pointing to information relevant to setting up enterprises on the Internet.

DIGICASH

http://digicash.com

Ecash is a recent Internet security initiative and this is its home page. Electronic 'cash' is purchased from Digicash to pay for a growing range of services. This system is the brainchild of an organisation with its roots in bank 'smart cards'. It's still experimental, but the company hopes to set a standard. You can register here, with your own electronic wallet of ecash. There's a growing number of shops participating, which are all accessible from this page, as well as details on how to start your own.

DIRECT MARKETING WORLD

http://mainsail.com/dmworld.htm

DM World's resource for direct marketers includes lists, list-builders, copywriters and consultants. There's a growing employment section, literature for sale and guides to using direct marketing on the Internet. However, the site is poorly laid out and uses far too much bold ▶

The key to Internet Security...

The Marketing Director needs to advertise on the Internet. Researchers want to access the Internet's vast resources. Everyone is demanding global Internet communication. Your company is losing business by not being on the Internet.

Your concern is that an Internet connection presents security risks. You need a solution which provides connectivity without compromising your internal network security.

FireWall-1, with its advanced packet filtering technology, prevents unauthorised access whilst allowing transparent connectivity. Its advanced Graphical User Interface simplifies configuration and provides remote management and alerting. Powerful auditing and logging facilities record and interpret all attempted security breaches.

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Germany
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INTERNET WORLD STAND B11

What's on

type, despite being compiled by people who should be experts in communication.

DYNAMIC BUSINESS INFORMATION

http://www.dbinfo.co.uk/dbinfo/

The first thing you might notice about this site, UK Network Innovation's first creation, is its divergence from the accepted paradigms of site design. It has borderless buttons, blue text and prolific use of Netscape enhancements. For a small fee, Dynamic Business Information will undertake to supply online credit reports on any individual or business worldwide.

ENTREPRENEUR NET

http://www.cyberzine.org/html/Entrepreneur/enetpage2.html

In this attempt at creating the most capitalist Web site, there are a wealth of links to business resources and commercial sites. Classic Internet Ad Samples has loony products for sale, such as the talking fork, the yummy yummy toothbrush, the swearing key ring and the rapping Christmas tree.

FEDEX

http://www.fedex.com/

Federal Express has revolutionised the way companies haul freight, take orders and service customers. This foray into online parcel tracking marks yet another transport industry first.

INTERNET BUSINESS DIRECTORY

http://ibd.ar.com/

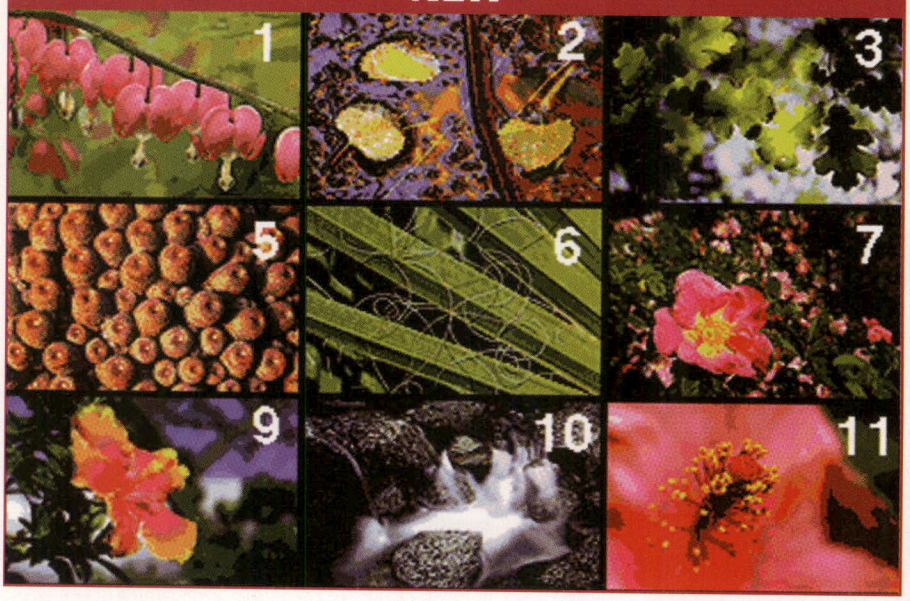
This is an attempt to collate business pages and resumés into a easy-to-search directory. It's not particularly well structured, but it's yet another place to look.

MECKLERWEB

http://www.mecklerweb.com

MecklerWeb is US publisher MecklerMedia's commercial Internet presence. This tight professional site is setting a high standard with daily Internet news, company announcements, a multi-storey shopping mall, Net happenings and smart advertising promos – you really feel the fog is clearing and the whole thing is coming together.

NEW



KODAK

http://www.kodak.com/

Here's where to find out about Kodak's products, services and latest developments, particularly its PhotoCD technology. There are digital images in both JPEG and ImagePac formats, as well as the necessary viewing software, for download. If you need further information, you can query the company direct by email.

MILLENIUM

http://www.milfac.co.uk/milfac/

Currently this site has information on over 26,000 UK companies and the aim is to expand to 3 million, which will also include a large proportion of European listings. You can search by product or service category or by name. At the moment it's a very slow service, probably due to the access provider, but this may change.

ON RAMP

http://www.ramp.com

This site aims to be an Internet 'one-stop shop', providing access to dozens of popular addresses. The road motif is used throughout as you journey down the highway, with exits to various places. The business section includes banks, stock market prices, Wells Fargo business services and the US Patent Office. The rest stop offers humour, a huge games section and Internet chat lines. You can check out clients' diverse home pages or visit the products and services area for trips to art galleries, bookstores, health clubs and restaurants. This is a great site for all the family, with lots to see and do.

THE COMPANY CORPORATION

http://incorporate.com/tcc/home.html

The Company Corporation will incorporate your business in the State of Delaware (very useful for US citizens looking for tax breaks) and kindly look after all your accounting obligations, for a reasonable fee. All the details, like fictitious name applications, are here, but if you need more they're eager to help.

THE INTERNET GROUP

http://www.tig.com

The Internet Group (TIG) is another doing-business-on-the-Internet enterprise. As well as pages on TIG's publishing, consulting and seminar services, there are also links to services offered by its clients, plus substantial information offerings about the commercial use of the Internet. If you're planning business or professional use of the Internet, TIG is one of the perfect places to start research. Its Hot Sites page provides links for commercial users in various categories, such as travel, government, financial services, legal services, shopping malls and storefronts.

WALDMAN'S WORLD OF NET ADS

http://www.hhcl.com/wwoa.html

Imagine how advertising agencies must be rubbing their hands together with glee, thinking of the prospects this brand new medium offers. Watch this spot to see how they're going.

WILSON KELLER AGENCY

http://www.aztec.co.za/wka/wka.html

Nothing but unashamed puffed up self-promotion from this South African advertising agency, with such gorgeous graphics that you'll overlook the corporate rhetoric. What's more, it just might bring it business.

Community Groups

IGLOO

http://access.digex.net/~erewhon/

Find out here how to go adventuring with Igloo,

the International Gay and Lesbian Outdoor Organisation. A current calendar, address lists, trip leaders' guide and information about the adventures are all included.

IRANIAN CULTURAL INFORMATION

http://tehran.stanford.edu/www/tehran.html

Iranian/Persian interests such as a routine which generates Persian script from ASCII, recipes, Persian calendars, virtual maps, literature, art, Islam and cultural events.

MIT ARAB STUDENT ORGANISATION

http://www.mit.edu:8001/activities/arab/homepage.html

If you've been looking for pointers to Arabic pages, this is your lucky day. Apart from details and news of this student organisation, there are links to Arabic software suppliers, student groups, cultural organisations, reference works, photo libraries, Middle Eastern servers and other Arab-related pages, sorted by country of origin.

QUEER RESOURCES DIRECTORY

http://vector.casti.com/QRD/.html/QRD-home-page.html

A massive homosexual resource of information on Aids, legal news, attitude trends, clubs, publications, broadcasts, images, military gays, political action and community groups.

Computer Hardware

APPLE

http://www.apple.com

This site offers a plethora of information and resources; everything from Apple's press releases through to current product information, technical support and developer data, together with links to other Internet sites that hold Apple-related information.

COMPAQ

http://www.compaq.com

This is an excellent example of how PC hardware servers should be presented. The home page offers a choice of text or graphics. The subsequent index pages are scaled to fit neatly on a PC screen – easy to do but hardly ever done. The content is a good mixture of information and marketing material, plus product support, including a wide selection of downloadable files. Other vendors would do well to read these pages for a few ideas on how they can present themselves in a professional manner.

CREATIVE LABS

http://www.creaf.com/

Creative Labs, maker of the Sound and Video Blaster series, offers news releases, FTP links, support advice, employment opportunities and product details. There's not much here at this stage, but it's all you really need from this specialised multimedia firm.

DELL

http://www.us.dell.com

This site has one focus – serving Dell, the world's top mail order PC manufacturer, and its clients. There's online access to spare parts, technical support, BBS files, catalogues, press releases, the Dell online service and the Dell international phone list. The site has all the charm of a chartered accounting firm's year-end report. If you use Dell and need files or support, it's probably very efficient.

DIGITAL

http://www.digital.com

This is the main Digital home page and it provides links to other Digital web servers and to professional associations sponsored or supported by the company. It all adds up to a pretty comprehensive service for Digital customers, devoid of fancy graphics and marketing puff but, on the whole, it could be a bit more colourful. There are, however, a few whimsical links to the likes of the Palo Alto Cloud Gallery and the Future Fantasy Book Store.

DIGITAL COMMERCIAL SERVICES

http://www.commerce.digital.com/

Designed to show off what Digital can do, this is an almost inexhaustible collection of tourist information about the town of Palo Alto – essential reading if you're holidaying there, but of only marginal interest if you're not. Along with out-of-date advice on how to avoid traffic jams during the World Cup, the Caltrain timetable and a promo for Cloud Gallery, a CD-Rom of 'passionate and powerful sky backgrounds', there are screens and screens about Mary and Michael's Wedding Photography. This material is hardly a serious advert for Digital, although it's not without its amusing moments.

HEWLETT-PACKARD

http://www.hp.com

HP's recently-improved service includes access to drivers and patches for peripherals and other hardware products. This is a good example of how a properly set up Web server can deliver easy, cheap support.

IBM

http://www.ibm.com

A colourful compendium of IBM marketing information with a strong emphasis on the company's technological prowess, but there's no technical or support advice and if you're having problems with OS/2 3.0, you'll have to look elsewhere. There is, though, the novelty of a spoken message from IBM chairman Lou Gerstner. One of the strong points of this site is that it seems to be updated regularly, but it could do with more technical 'bottom'.

INTEL

http://www.intel.com

Product and support information and a list of 'off-ramps on the infobahn'. There are some handy pointers profiling Internet users and a neat set of graphical usage statistics.

MOTOROLA POWERPC

http://www.mot.com/PowerPC/

Through the IBM/Apple co-venture, Motorola looks poised to turn the microprocessor world upside down, yet again, with its Risc processor. If you've been fortunate enough to use the PowerMacs, you'll be familiar with the technology that's tipped to become the next generation. This site will provide news about, and support for, the chip and its associated software.

NEW

IGUANA IMAGES

http://iguana.images.com:80/dupecam.html

If you want to see a lizard's futile struggle against captivity, this remote camera will deliver the goods every few minutes. Otherwise, you can email this small imaging house and request that it be reunited with its natural habitat.

What's on

NEC IN JAPAN

http://www.nec.co.jp/index_e.html

This is another megalomaniacal corporate tribute page, this time from electronics giant NEC. The pages are bland and offer little of interest other than a basic product listings. In fact, there seems little point in creating them, other than to show traditional Japanese respect for the chairman. You can check out how he feels about it because the only image is his – and he looks pretty bored as well.

NOVELL

http://www.novell.com

Novell, the company behind the NetWare network operating system, has made a big move recently to shift its support and information services to this Web server. What has been available through CompuServe Netwire for some time is now here. If you have local call or ISDN Internet access, this is the cheaper alternative. In a simple and straightforward fashion, Novell is up there with Microsoft, showing how the Net can deliver value to users.

POWER PC MAGAZINE

http://power.globalnews.com/

Power PC magazine, edited by industry man-about-town Chris Rose, publishes every two weeks and offers a neat twist to the usual electronic mag story. When you subscribe (free), you receive the contents page by email. This alerts you to retrieve the items. Big stories are subsequently sent to you at any time, when they break, by email and they appear under the heading PowerFlash.

SUN MICROSYSTEMS

http://www.sun.com/

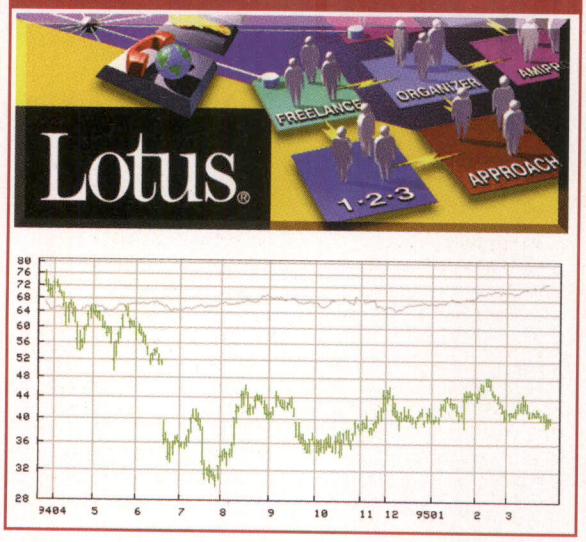
Information about Sun Microsystems, its products and support, as well as research and technology news such as the Sunergy satellite broadcasts. There are links to other Sun sites, located in London, Singapore, Tokyo, Moscow, Johannesburg and Hong Kong, and these provide easy access to public domain software, Sun and government information, as well as material such as the Internet Underground Music Archive. Sun is one of the leading players in encouraging the development and use of new technology on the Internet, so keep an eye on this site.

UK UNIX USER GROUP

http://web.dcs.bbk.ac.uk/ukuug/home.html

All things Unix can be found here, courtesy of the UK Unix User Group. You can access membership details, a substantial software archive, a newsletter and links to other relevant sites. If you're into Unix in a big way this is a must.

NEW



LOTUS ON THE WEB

http://www.lotus.com

If you've got the feeling that Lotus is struggling to keep up with its obvious competitors, this Web service may add to your suspicions. Just compare its stock performance against the likes of Microsoft, Symantec, Novell and the Dow Jones average by clicking on its title. The site is certainly attractive, and at first glance seems to show a bold face, but don't expect to find a bundle of updates, patches, user forums or clever tips for using its software suite. It's another one of those corporate presences where you can't see the product for the sales account executives' shoeshine.

Computer Software

ADOBE SYSTEMS INC

http://www.adobe.com

Stop here for information about Adobe products and support. The reader software Acrobat is available for download and you'll find plenty of PDF (Portable Document Format) files and site links to browse.

HARRIER SOFTNET

http://www.harrier.com

A simple, unpretentious set of pages giving technical information about TCP/IP products distributed by Harrier in the UK and France, including seminar dates as well as in-depth technical information.

IBM OS/2

http://www.ibm.net

This page is what you would expect from industry heavyweight IBM. There are links to travel, shopping, libraries, PC information, sports, news, cool and new sites, business advice and most things you can think of. Be careful not to select the home page pointer unless you really need a run-down on IBM's product range.

LOTUS DEVELOPMENT

Email: support@ccmail

Electronic mail support for Lotus's cc:Mail, the second most popular commercial email pack.

MICROSOFT

http://www.microsoft.com

This major effort by Microsoft will show computing companies how to extend their services through the Internet. Although the Web site is still under development, there's a large amount of information for developers and Microsoft product users. This includes sections of information about Windows and Wolverine – the new 32-bit TCP/IP stack for Windows. It's also possible to get access to patches, sample code and text files. This will be a major Internet resource and is also available via FTP at ftp.microsoft.com and Gopher at gopher.microsoft.com

ORACLE

http://www.oracle.com/

News and information about Oracle's database product range is available here.

QUARTERDECK

http://www.qdeck.com

The info and downloading point for Quarterdeck's Mosaic for Windows and HTML WebAuthor for WinWord 6.0.

SOFTWARE.NET

http://software.net/

The time can't be far off when it's standard practice to distribute commercial software either via a secured Internet connection or by direct dial access. Software.net is close to achieving this here, with several titles for download through a secured link. Most, though, are conventionally boxed for Fedex delivery.

SPRINGSOFT

http://www.springsoft.com/

Springsoft is a European publisher of Windows software. Here's where to explore and download its products.

SYMANTEC

http://www.symantec.com

Information and support on Symantec/Norton's award winning range of virus checking and disk management utilities. There's also free software to download, as well as a useful set of links to other vendors.

TOOLS FOR WINDOWS

http://whiz.mfi.com:80/msj/

Search the database for things that interest you in the 1994/1995 Tools for Windows product guide, produced by Miller Freeman Inc. The company's Microsoft Systems Journal's

home page will also be available soon from this site.

VISUAL NUMERICS

http://www.vni.com/

Visual Numerics supplies Fortran and C library tools, visual data analysis (VDA) software and scientific presentation graphics software. Its products include the IMSL libraries, the PV-WAVE family, and Stanford Graphics. Apart from furnishing product details and technical support, this site intends to act as a forum and a launch pad to the anonymous FTP server.

WORDPERFECT

FTP: ftp.wordperfect.com

This is a dull effort by WordPerfect. All you get is product literature and a list of telephone support costs. There's no obvious access to patches and fixes or new products but presumably that will come.

Education

ANIMAL INFORMATION DATABASE

http://www.bev.net/education/SeaWorld/homepage.html

This database has been set up by Sea World USA as an educational service for teachers and children. There's information, games, teaching guides and quizzes about animals children love, like whales, dolphins, gorillas, lions, tigers and walruses. It's set out in an interactive fashion, to make it fun learning some of the more laborious details of scientific classification, latin nomenclature and biological value.

INTERACTIVE FROG DISSECTION

http://curry.edschool.virginia.edu/~insttech/frog

This online tutorial is just one of the great educational resources on the Net. It sets out to teach you how to be nifty with a knife in the biology classroom and is aimed at US high schools, so it's suitable for UK secondary students. The text is admirably clear and the movies alarmingly to the point. This is not for the squeamish, but then again watching a frog being hacked to pieces on screen is probably preferable to doing it yourself.

NEW

CORE – INDUSTRIAL DESIGN RESOURCES

http://www.interport.net/CORE/

Are you a budding industrial designer, just waiting for a break? Maybe you'll find some help here. There's advice on putting your book together, marketing tips, employment opportunities, discussion forums, as well as listings of industry associations, business contacts, recommended reading lists and design schools. If you're still stuck, maybe the student projects from Pratt's design programme in New York will provide some inspiration.

INTERPEDIA PROJECT

http://www.hmc.edu/www/interpedia/index.html

The Interpedia Project aims to bring an online encyclopedia to the Internet. Here you can find out more about the project or obtain details on current and experimental information resources around the Net.

MATH MAGIC ACTIVITIES

http://www.scri.fsu.edu/~dennisl/topics/math_magic.html

These card, rope and calculation tricks require no mirrors, just a basic understanding of mathematic principles.

MOSCOW ALTERNATIVE SCHOOL CENTRE

http://www.fsr.com/~janesta/masc/index.html

Moscow, Idaho, but this isn't your average high school, with hours from 3pm to 9pm, five-week terms, tailored enrolment and the option of external tutoring. Check out the graphics and read the school's story. There are also some educational links here but they're pretty basic.

NCET

http://ncet.csv.warwick.ac.uk/index.html

The National Council for Educational Technology (the government quango for IT in education) offers a range of information, including advice to parents on computer usage and suggestions for schools on how to control Internet access. The pages are focused, updated fairly regularly and, best of all, relate to the UK, not the US, education system.

WEB66

http://web66.coled.umn.edu

Web66 aims to provide information for students and teachers to integrate the World Wide Web into education. There are links to What's New for kids, school WWW servers, excellent site building tutorials and navigation lessons for newbies.

Employment

CAREERMOSAIC

http://www.careermosaic.com/

By far the most professionally constructed employment service on the Internet. You can search through its home database which features a rapidly growing field of heavyweight clients, such as Chemical Bank, Intel and National Semiconductor, or use the browser to scan the Usenet groups. As with most employment sites, there's plenty of advice on resumés, career trends and salaries. Each client has its own set of pages with extensive details on its employment conditions and corporate activities.

INTERACTIVE EMPLOYMENT

http://www.espan.com/

Job listings and advice on hunting and presentation, with tons on offer, mostly in US Fortune 500 companies. You can search by region or job type. However, it's a big clumsy system and you have to wonder if the jobs are very current.

IT JOBS WWW SITE

http://www.britain.eu.net/vendor/jobs/main.html

Efficient selection and sorting routines make this a handy service. Job listings are updated by several professional employment agencies.

What's on

JOB OPPORTUNITIES IN ENTOMOLOGY

http://www.colostate.edu/Depts/Entomology/jobs.html

Looking for an international placement in apiculture, acarology or insect comparative morphology? Try here.

JOBS AT CREATIVE LABS

http://www.creaf.com/www/decjob.html

Engineering, IT, marketing, sales, support and programming staff wanted at Creative Labs, home of Sound Blaster.

JOBS AT MICROSOFT

http://www.microsoft.com/pages/services/jobops/toplevel.html

International graduate, design, development, testing and marketing jobs available throughout Microsoft.

ONLINE CAREER CENTRE

Gopher: gopher msen.com

Here job-hunters in the US and Canada are invited to browse profiles of companies which are actively recruiting staff. Vacancies are classified by state and city, and many have contact names, a full job description and an email address. There is also a section on how to construct a CV and once you've done that you can post it to thousands of potential employers or a carefully targeted few. Each CV posting lasts 90 days, after which it is removed. If you're still searching, just re-submit it.

PRICE JAMIESON

http://www.gold.net/PriceJam/

This international recruitment agency intends to place all its professional job listings online, updating them at least weekly. After you've qualified by sending in your CV, with a bit of luck, they'll call you in.

Entertainment

ARNIE QUOTE GENERATOR

http://www.ora.com:8080/cgi-bin/ora/arnie

Each time you reload you are greeted with a fresh Arnie-ism and a chance to submit your own.

ASK JOE

http://fishwrap.mit.edu/News/AskJoe/AskJoe.html

You can ask Joe anything, and, if he feels like it, this MIT chemistry student will answer. You can read past questions and answers in the archives to make your own judgment on his competence.

ASTROLOGY

http://www.dircon.co.uk/networks/stars.html

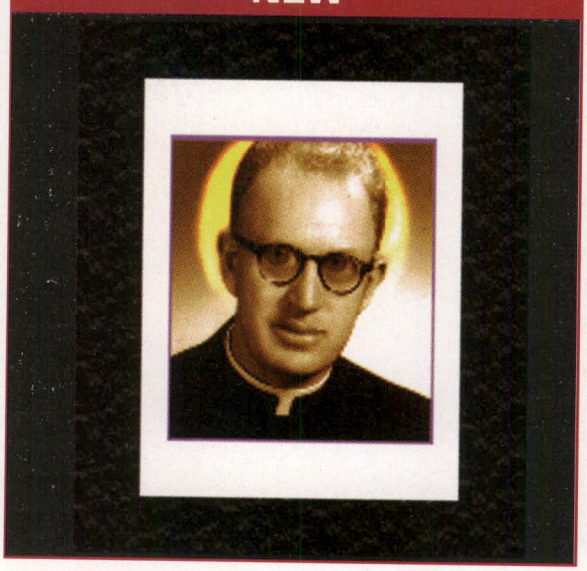
Look here for weekly updated astrological predictions, astrology FAQs and links to other soothsayers. There's still no forecast for the 13th sign.

BEST-QUALITY AUDIO WEB POEMS

http://www.cs.brown.edu/fun/bawp

These pages have the dubious aim of recreating the experience of live poetry readings, by downloading recordings. It's not hard to live up to the claim of 'best quality' when you have no competition. Should another come online this might very well be redubbed 'worst'.

NEW



PADDYNET

http://www.paddynet.ie/

This Dublin-based online service is a combined effort of over 25 international Web weavers. It's being sponsored by the black brew to provide a place for Irish creatives to air their works. In line with Guinness' general marketing plan, expect obtusity and sparkle at every turn.

BUILD A CARD

http://infopages.com/card/

Compete for the tackiest virtual Valentine or greeting card, with this ingenious step-by-step online art studio.

CATHOUSE BRITISH COMEDY PAGES

http://cathouse.org:8000/BritishComedy/

You can find links here to a multitude of, mostly British, comedy archives and sites around the Web, featuring acts such as the Goons, Alan Partridge, Absolutely Fabulous, Bottom, Blackadder, Carry On films, Douglas Adams and Ben Elton. This site is also home to the Bricomedy Digest, an ezine devoted to past and present British humour.

CYBER-TOWN, ARTS AND LEISURE

http://www.cityscape.co.uk/cyber-town/index.html

This home page points you to places that are exotic, like the Gates of Darkness, or educational, like the Louvre. It's a useful place to learn more about the Internet and it's also a good page for recreational use.

CYBERIA

http://www.easynet.co.uk/pages/cafe/cafe.htm

This is the home page of the UK's first Cybercafé, featuring loads of links to fun spots such as art galleries, astrological forecasts, cool sites, museums, film databases, music pages, UK guides, a virtual nightclub, sports pages, campaigns and even a dating agency. This ultra-hip café, located in the heart of London's West End, is an ideal place to connect directly to the Internet at 64k, without the costly overhead. If you can't make it down to Cyberia in person, look in the guide to cybercafés around the world. Maybe there's one opening near you soon.

CYBERSIGHT

http://cybersight.com

A great arty home page with a friendly groovy feel. There are links to favoured and unfavoured sites, chat forums, games, trivia, as well as all sorts of opinion polls.

EXPO TICKET OFFICE

http://sunsite.unc.edu/expo/ticket_office.html

Here's a refreshing alternative to the usual hot site theme park, presented by the US Library of Congress. You can jump aboard a virtual bus to tour exhibits of the Vatican, Soviet archives, European exploration of the Americas, Dead Sea Scrolls, Museum of Paleontology and the city of Spalato. After all that, you're dropped off at the Expo Restaurant to sample its daily masterpieces of French cuisine.

FASHION PAGE

http://www.charm.net/~jakec/

With so many fashion magazines swamping the newstands, it's not surprising that they're starting to make an appearance here. They're not entirely suited to the medium, though. Being image driven slows down page delivery and, fashion being fashion, it's out of date immediately. This site favours a more textual approach, a little like hearing about it on the radio.

FIND THE SPAM

http://spl.berkeley.edu/findthespam.html

There are many sad and lonely people who find the

tinned, spiced, reconstituted pig offcuts known as Spam an endless vehicle for ridicule and amusement. If you are one of them, this page is for you. You can even add your own spammatical witticism to its bulletin board.

JUSTIN'S UNDERGROUND LINKS

http://raptor.sccs.swarthmore.edu/jahall/

Almost every link from this popular and well-maintained site is worth a look. There's a focus on the clandestine, the visual and the bizarre. There are simple instructions on how to publish your own pages and even advice on how to hack HTML. If you're looking for the most twisted sites on the World Wide Web, college student Justin's choice of the weird, the wild and the wonderful is a fine place to dive in.

LAUGHWEB

http://www.misty.com/laughweb

Humour of all sorts, even quips about Intel's Pentium mishap.

LOCKPICKING

http://www.lysator.liu.se/mit-guide/mit-guide.html

Thanks to the great minds at MIT, an indispensible illustrated lock-picking guide for potential felons. They laughed when I told them I was learning to burgle, but when they came home...

MIRSKY'S WORST

http://turnpike.net/mirsky/Worst.html

If your page turned up here, you think you'd have to be doing something very wrong. Well not necessarily. While some of Mirsky's choices are genuine shockers, others are actually quite entertaining in their ineptitude. Not knowing until you get there makes it something of a lucky dip, but in fact, it's worth a spot in your bookmarks.

PRACTICAL JOKES

http://www.umd.umich.edu/~nhughes/htmldocs/pracjokes.html

This collection of larks and laughs at others' expense has been compiled from the Usenet archives of alt.shenanigans

QUILTING

http://ttsw.com/MainQuiltingPage.html

Got nothing better to do than sit in front of the fire making your own quilts? This site will answer all your questions and point you to designs and fabric sources. However, you should try and get out more.

QUOTE GENERATOR

http://www.ugcs.caltech.edu/~werdna/fun.html

This is a clever interactive one-at-a-time purveyor of quotes from such sources as Dan Quayle, Dr Who, Webster's, Zippy (he from Rainbow?) and your mum.

ROME LAB SNOWBALL CAMERA

http://www.rl.af.mil:8001/Odds-n-Ends/sbcam/rlsbcam.html

Try your luck throwing virtual snowballs at the engineer chappies at Rome Laboratory.

NEW

CARLOS' COLOURING BOOK

http://robot0.ge.uiuc.edu/~carlosp/color/

Useless as they are, sites like these can be fun. In this case, you select a segment of a picture, choose a colour and then shade it in. You can do one at a time or a batch, and it's destined to inspire a whole new generation of interactivity.

STEVEC'S UUUUUU

http://ftp.std.com/homepages/stevec/index1.html

This set of very original and often funny gags contains more sophisticated irony than most in its genre.

THE CREATIVE INTERNET

http://www.galcit.caltech.edu/~ta/creative.html

This is a major source of information about pop culture, with extensive sections on music and television. The Complete TV Guide includes the ultimate TV list which contains more than 135 links to information about 35 TV series. The best coverage is, unsurprisingly, devoted to *Star Trek*, with *The Simpsons* and *Married With Children* following close behind. The lists include newsgroups, mailing lists and Web pages. The ultimate band list offers more than 752 links to info about 177 bands. There's also the Internet's 'hottest music links'. See if you agree.

UK NATIONAL LOTTERY

http://ribble.csc.liv.ac.uk:80/users/rkl/lottery/

Everything you need to know about the UK lottery – statistics, winning numbers, draw details, numerical analysis and instructions. Everything, that is, but the only thing that matters.

VOICE SYNTHESISER

http://utis179.cs.utwente.nl:8001/say

Enter your profanity, hit return, and wait for the response to be automatically launched by your sound player, for the mirth of all within earshot. Spell words phonetically for greater success.

ZODIAC FORECASTS

http://www.metawire.com/stars/

Free forecasts for each star sign are posted here daily, but to get personal and yearly charts you need to send money.

Exhibitions

THE INTERFACE GROUP

http://www.comdex.com:8000

The Interface Group is the ▶

organiser of the major Comdex series of computer trade shows. These pages offer exhibitor lists, conference schedules, travel and accommodation, and visitor registration information. At present, though, you can't register online for any of the events – an application that surely can't be far off. An important challenge for exhibition organisers is to keep their pages up-to-date.

ZIFF-DAVIS EXPOS

http://www.zdexpos.com

An awful-looking home page in conjunction with poorly-structured information mars a useful collection of Web pages that provide exhibitor lists, conference programme details and other information about the Networld and Interop exhibitions in the US, France, Germany and Japan. Ziff-Davis pioneered online registration from this site and the server is certainly one to watch. Ultimately, the company has plans to run Internet exhibitions.

Ezines

EZINE-LIST

http://www.ora.com:8080/johnl/e-zine-list/

Probably the longest list of electronic magazine links available on the Web. Unfortunately there are no attached descriptions so, unless the title is self-explanatory, it's a hit or miss affair.

FACTSHEET FIVE – ELECTRIC

http://kzsu.stanford.edu/uwi/f5e/f5e.html

Home to weird ezines such as *Addicted To War*, *Tarot News* and *Psychotronic Video*.

NETSURFER DIGEST

http://www.netsurf.com/nsd/index.html

Subscribe and receive a weekly free list of reviewed Web sites written in either HTML or plain text. Current and back issues are also available online. It's better to subscribe to the HTML version as Netscape can take advantage of its links. This service is funded by the Netsurfer Marketplace, the online shopping mall, which can also be reached from this address.

NEW

INTRRR NRRRD

http://www.etext.org/Zines/Intrrr.Nrrrd/intrrr.html

The exciting thing about ezines is the variety of multimedia content that can be carried, such as text, music, animation and even software applications, all within a magazine format. As yet it's rather amateur, but few have the resources to attract quality contributions, and even when they do you only see a snippet of the paper version. This one has a little, but not quite enough, of everything. Its focus is on form rather than bulk, but there are still at least a few visual nuggets worth inspecting.

NSF NETWORK NEWS

http://www.internic.net/newsletter

A free newsletter about the evolution of the Internet, available in hard copy and electronic formats.

PHRACK MAGAZINE

http://freeside.com/phrack.html

First published in 1985, *Phrack* magazine has printed controversial and often anarchic articles for the hacker community. You can download or browse back issues and subscribe free to the quarterly.

PSYCHE JOURNAL

http://hcrl.open.ac.uk/psyche/psyche

An electronic interdisciplinary journal of consciousness research with articles, commentaries and book reviews on such subjects as vagueness, semantics, the language of thought, delineating conscious processes and contrastive analysis. When you've figured that lot out, you can test the links to other philosophical Gophers and online resources.

THE ETEXT ARCHIVES

http://etext.archive.umich.edu/

An archive of electronic magazines which you can Gopher search by name or title.

TRAVELS IN HYPERMEDIA

http://www.york.ac.uk/~jjrk1/

As well as links to pages of basic information about the Internet – like the Big Dummy's Guide – this site includes scholarly, illustrated discussions on hacker culture and the politics of cyberpunk, pornography and the sexual aesthetic of the Internet.

URBAN DESIRES

http://desires.com/ud/1.1/urban_toc.html

Billing itself as an interactive magazine of metropolitan pleasures, this glossy modern ezine really delivers. It has well written modern city stories on technology, eating, sex, music, art, performance, style, politics and more. There's even a lengthy gruesome comic strip which, despite its graphic detail, loads quite quickly due to a clever three-part download. If you're thinking of publishing comics or graphics on the Internet, don't miss this site.

WIRED

http://www.wired.com

Until recently, the world's hippest publication, a style magazine about technology, delivered some of the world's dullest Web pages. Now, though, *Wired* is steadily evolving its electronic product into HotWired. Keep checking on this because it's getting better all the time, and there is now a UK version of the title itself, produced by the *Guardian*.

Film and TV

BEAVIS AND BUTTHEAD

http://calvin.hsc.colorado.edu/

Much what you would expect from a rabid fan of MTV's pop culture analysis, as seen through the eyes of two dysfunctional juvenile delinquents.

BIG MAC'S MONTY PYTHON ARCHIVE

http://www.xs4all.nl/~bigmac/python.html

Visit this site for a copyright-

abusing compendium of Monty Python's Flying Circus pictures, clips, audio and scripts. The big drawback for Python fans is that the only way to download them is to pay in DigiCash (see under Business) – perhaps the wackiest ever way of trying to create a de facto standard.

BUENA VISTA PICTURES

http://bvp.wdp.com/BVPM/

This site presents previews of forthcoming mainstream movies from Touchstone and Disney. The title screen is an old-fashioned movie house. Walk through the doors to watch excerpts from new films, interviews with the stars or read press releases. If you have a good system and movie player, plus the patience to download the minute-long video cuts, you will be delighted by the quality. Be the envy of your friends as you watch previews of up-and-coming pictures like *The Goofy Movie* or *Pocahontas* time and time again.

CAPT JAMES T KIRK SING-A-LONG

http://www.ama.caltech.edu/~mrm/kirk.html

Audio excerpts from William Shatner's bold vinyl masterpiece 'The Transformed Man'. Inspiring stuff!

CARDIFF MOVIE BROWSER

http://www.cm.cf.ac.uk/Movies

An exceptional relational database of movie, cast and review information, selections can be cross-referenced to find an actor's complete biography by clicking on their name in another cast list. Most films are rated by online voting and users can contribute. If you have even the most transient interest in film, you must check this out.

CHANNEL 4

http://www.cityscape.co.uk/channel4/

This page forms part of Channel 4's follow up service. If you missed that documentary about Brazilian street children all your friends are talking about, or if you saw it and just want additional information, drop into this site. Contact details for programme participants are usually up here and you sometimes find complete scripts, too.

HONG KONG MOVIES HOME PAGE

http://www.mdstud.chalmers.se/hkmovie/

This site features plenty of information about the action director's director John Woo, his catalogue, plans and profiles of actors such as the genius Chow Yun Fat. If you've seen any of his gems such as *Hard Boiled*, *The Killer* or *God of Gamblers*, you'll know why he's received such cult notoriety. But it's not all Woo and Fat, there's plenty more, including a searchable database, MPEG movies, images, FAQs, interviews, news Gophers and even the Hong Kong Popstars Archive.

MCA/UNIVERSAL CYBERWALK

http://www.mca.com

New features from the MCA/Universal stable, presently featuring interactive premieres of Arnie's *Junior* and Kylie and JC Van Damme's *Streetfighter* – a glittering showcase of the finest acting talent available to MCA.

MTV ODDITIES

http://mtvoddities.viacom.com

Animations, soundbites, graphics and airdates for MTV house pets such as the Head and the endearing Beavis and Butthead are available on this site.

PULP FICTION

http://www.elmail.co.uk/movie/pulp

If the Internet is your only contact with the outside world, you may not yet have overloaded on the hype surrounding the release of Tarantino's Cannes winner. Those with a fixation on the incomplete may like to download excerpts from the soundtrack or movie. Since the video is likely to be a long time coming, this is probably the best source.

RED DWARF

http://www.hal.com/~markg/docs/RedDwarf/rd-home_page.html

Episode guide, FAQs, favourite quotes, images and sounds from the excellent British sci fi situation comedy. Hopefully the favourite quotes will develop into full scripts.

STAR TREK GENERATIONS

http://generations.viacom.com/

Previews, news, peeks behind the scenes and merchandising from Paramount Pictures' new *Star Trek* film, this site claims to bring the final frontier to the cyber frontier. In this latest instalment of our favourite space soapie, through some astrological illogicality, Captain Picard (Patrick Stewart) comes face to face with Captain TJ Hooker (William Shatner).

STAR WARS MULTIMEDIA

http://bantha.pc.cc.cmu.edu:1138

Strictly for diehard buffs of the film and not the fabled defence project.

THE PICTURE PALACE

http://www.tagsys.com/Ads/PicPal/

There are only weird, daring and truly offbeat films featured on this online video store. Each has a short review and some have images and sound samples. There's some really choice stuff, grouped into Exploitation, RIP, Japanimation, From Hong Kong, Horror and Film Noir. While the store says it was set up to make hard-to-get videos available, and while it invites email, it doesn't actually mention money or shipping.

THE PRISONER HOME PAGE

http://itdsrv1.ul.ie/pub/webac/Entertainment/Prisoner/the-prisoner.html

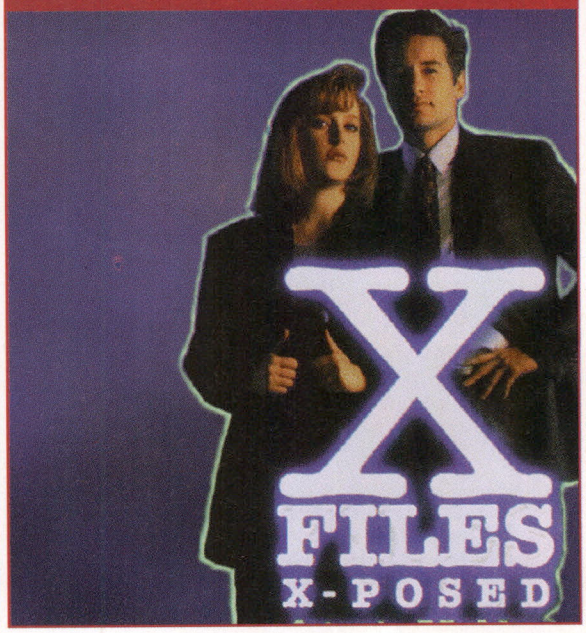
This lean fan page of cult TV series *The Prisoner* features episode listings and an interview with the actor/playwright Patrick McGoohan, who rejected the role of James Bond only to slip into obscurity.

THE SIMPSONS

http://turtle.ncsa.uiuc.edu/alan/simpsons.html

Listen to Homer drool "Two all-beef patties, special sauce..." and the like. The stills and animations are as good as you would expect and the sound files have a certain cutesiness which many fans will enjoy.

NEW



FBI X-FILES DIVISION

http://weber.washington.edu/~roland/x-files/x-files.html

This improbable television drama has stimulated more online discussion than any other non-sexual, non-computing, non-Kurt Cobain-topping-himself topic. You can get the inside here, on the new, yet-to-be-screened-in-the-UK, series, where it suddenly dawns on Scully that, gee whiz, Mulder's right, something fishy is going on. Bring on the marchin' martians!

What's on

TV NATION

http://www.teleport.com/~xwinds/TVNation.html

Episode listings, poll results and transcripts of the historic TV Nation day bill passed in the US Congress – from this brilliant cutting-edge current affairs satire.

TWIN PEAKS

http://pogo.wright.edu/TwinPeaks/TPHome.html

If you can't get enough of the decade's TV highlight *Twin Peaks*, perhaps this site will help you through the hours leading up to the local release of Lynch's subsequent productions. All the Log Lady introductions, cast lists, pictures, theories, hidden allusions, FAQs, scripts and other Twin Peak links are available.

YOUR DAVID LYNCH RESOURCE

http://web.city.ac.uk/~cb157/Dave.html

There's not as much here as you might expect, given the surrealist auteur's huge and deserved cult following. The discussion areas are a bit lean, but the full scripts of *Dune* and *Fire Walk With Me*, and the interview with Ray Wise (father and killer of Laura Palmer), should satisfy fans.

Finance

CURRENCY CONVERTER

http://www.ora.com/cgi-bin/ora/currency

This nifty program makes currency conversion a doddle no matter what form you have it in. By clicking on one of nearly 60 currencies you can create a new list, with your selection as the basis. Rates are updated weekly.

DOWVISION

http://dowvision.wais.net/

Dowvision is a press-clipping service from Dow Jones and WAIS, and it includes the full text of the *Wall Street Journal*, Dow Jones News, Japan Economic Newswire, Canada Newswire, Business Wire, PR Newswire, Investext Abstracts and Professional Investor Report.

MARKETMIND

http://www.marketmind.com

Subscription financial data and analysis service featuring MarketMind's own black box trading software. These systems generally look at stochastics, moving averages, convergences, divergences and pattern breaks to signal a market opportunity. The crash of 1987 was blamed on similar systems, although in less extreme situations they can limit losses and take advantage of trends. Caveat emptor!

PAWWS: WALL STREET ON THE INTERNET

http://pawws.secapl.com/

Why pay for North American stock quotes when you can get them free at this online porfolio manager? You can make your own technical prophesies, based on its quarter-hourly updated index charts, or try your hand at fund building in the portfolio challenge. The more chewy stuff is in the subscription service, which offers online brokerage, portfolio management, real-time quotes, research and all the other services you would expect from a stockbroker.

QUOTECOM

http://www.quote.com

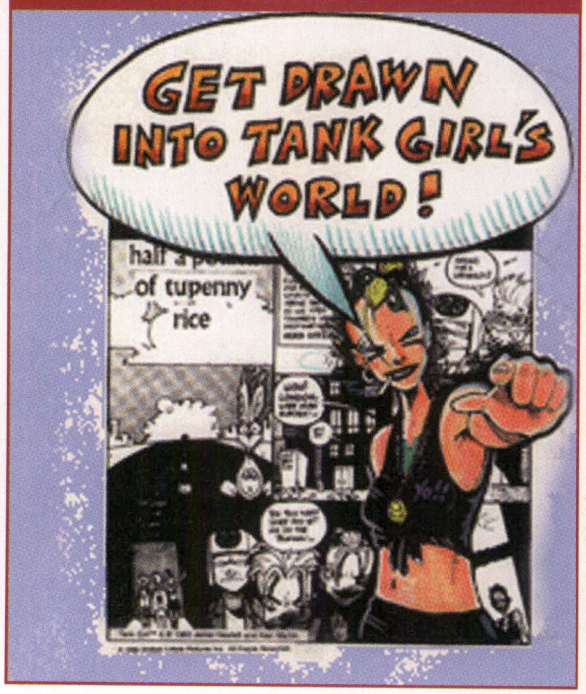
Like other financial data services, you need to pay to access live stock data here. UK data is available along with the most popular US and international prices. There is a rudimentary charting package but nothing to satisfy fans of Gann, Candlestick or Elliot theory. As there's plenty of dialup competition in this market, look around before you pay. Don't buy too much historical data, though, as this is free by FTP or if you go out and befriend other chartists.

THE MINING CHANNEL

http://www.wimsey.com/Magnet/mc/index28.html

There's only a small amount of mining investment information, comprising newsletters, advertisements and a few company reports, available here. No one could argue that this isn't a great site, if only there was a bit more of it.

NEW



TANKGIRL

http://digiplanet.com/tankgirl/

Despite having Madonna's subtlety and Beavis and Butthead's spirituality, this comic-to-film adaptation's Web presence is a good one. Its backdrops, movie clips and in-your-face promotion give an ample sample of what to expect from the film.

Food and Drink

CARNIVORES UNITE

http://bronze.ucs.indiana.edu/~jkonrath/recipies.html

Here's a selection of politically-unsound recipes, using found objects and local pets.

CHILE-HEADS

http://chile.ucdmc.ucdavis.edu:8000/www/chile.html

Dip into Chilean recipes, chemistry, botanical facts, gardening tips and some general blurb. You can find out what's the hottest pepper, what makes it hot, how your body reacts, and identify that mystery one in your kebab.

CHOCOLATE LOVERS

http://www.ios.com/~shag/chocolate.html

This page features links to, and short comments about, providers of chocolate and all things chocolatey on the Internet. You'll be surprised at how many there are, but at this stage they're all US-based. Not to worry – most will deliver internationally...if you can wait that long.

COUNTRY FARE RESTAURANT

http://www.service.com/cf/home.html

Visiting Palo Alto? No? Well, at least you can whet your appetite by browsing through the menu at the Country Fare restaurant, in the most connected town in the world. Billing itself as an 'oasis among trendy establishments', this eatery offers sample recipes for downloading and cookery books for sale. You can also register to receive mailings about menu changes. The Whimsical Salt and Pepper Shakers must be a big crowd puller.

FLAPJACKS

http://www.cms.dmu.ac.uk/~se4sm/flapjack/

British flapjacks tasted, rated and slated.

LE CORDON BLEU

http://sunsite.unc.edu/expo/restaurant/restaurant.html

The daily menu here is from the

internationally famous Parisian cookery school, Le Cordon Bleu. There are seven menus on offer, all with full recipes taken from the book, *Le Cordon Bleu at Home*. You can also find out more about classes in Paris, London and Tokyo.

LONDON PUBS REVIEWED

http://www.cs.ucl.ac.uk/misc/uk/london/pubs/index.html

You can even add your local local to the list.

OVER THE COFFEE

http://www.infonet.net:80/showcase/coffee/

There's enough coffee information, trivia and purchasing details on this site to keep even the worst caffeine addict happy. There are references to reviews, anecdotes, links to similarly minded sites, Usenet newsgroups and much more. An ideal companion for a brew up.

PIZZANET

http://www.pizzahut.com

This pioneering service is becoming as famous as the Internet itself, even though it can only deliver in California. However, the server is way over in Kansas so there's no reason why this electronic storefront should not come to a Pizza Hut near you. If it turns out to be profitable, that is.

SHY MONGREL

http://jumbo.pipex.net/intervid/esp/

This is part of the far-too-clever-for-its-own-good advertising campaign by Grolsch, but does it work? Have you or anyone you know switched to Grolsch?

SPENCER'S BEER

http://guraldi.itn.med.umich.edu/Beer/

Here you'll find a number of online home-brew recipe books, including the entire Cat's Meow series. Bottle-spotters will be thrilled to find there are 228 labels displayed in 128 colours.

TANGO SPONSORS THE WORD

http://tango.hhcl.com/

Warning! Another Demon site, with heavy graphics to boot, so make a coffee while you wait for each page to download. If you watch *The Word* you may have seen this address flashed across the screen during the Tango advertisements. It's no suprise that the site is pointedly tasteless and sometimes humourous and there are pictures and clips from *The Word*, all couched in that *Viz* magazine top tips-type understated irony. But does it sell the product?

UPDATE

SCREEN FINANCE

http://www.ibmpcug.co.uk/~scrfin

Although much of the information here is available elsewhere, it's useful to be able to access it all from one place. The thorough details and advice on all aspects of European film production, taken from the business publication *Screen Finance*, plus abundant links to other screen-related sites, means this address warrants a place in any film fanatic's bookmarks. The pages can be cumbersome, though, due to the heavy reliance on graphic launch boxes, so be prepared to choose the text option. In celebration of a hundred years of cinema, curator Nick Hobdell is collating a hundred links. To help with this endeavour, email him at nick@nick-h.demon.co.uk

TASTY INSECT RECIPES

http://www.public.iastate.edu/~entomology/InsectsAsFood.html

Such delights as Bug Blox, Banana Worm Bread, Rootworm Beetle Dip and Chocolate Chirpie Chip Cookies (with crickets). Yum!

VIRGINIA DINER

http://www.infi.net/vadiner/vadiner.html

History, menus and peanut recipes from the Virginia Diner in the 'peanut capital of the world'. There is also a rather impressive selection of foodstuffs, especially peanut products, which can be delivered within days, to anywhere in the known universe.

VIRTUAL PUB

http://lager.geo.brown.edu:8080/virtual-pub

A pack of drunks getting dewy-eyed over lager – just like wine boffs only with more elbow waving than beard stroking.

WINE NET

http://desires.com/wine/index.html

Wineries and wine-orientated forums and clubs can be found through this US-based wine page.

Games

ALL-WEB EASTER EGG HUNT

http://orac.andrew.cmu.edu:5823/egg

The competition to find 50 Easter eggs hidden on Web pages is over, but most of the eggs are still there. Details here.

DOOM WWW

http://www.ping.de/~sven/doom/

Billed as the best place to make new enemies, this site acts as a dating service to meet fellow Doom addicts, so you can hunt them down and eliminate them via your modem. If you don't fancy killing fellow players, join forces and fight together.

DOOMGATE

http://www.cedar.buffalo.edu/~kapis-p/doom/DOOM.html

This paradise for Doomsters has links to FTP sites, hacking and editing instructions, add-ons, patches, spoilers, FAQs, secrets, forums and Doom II details.

FRACTAL EXPLORER

http://www.vis.colostate.edu/~user1209/fractals/mandel.html

A fractal is a complex self-similar and chaotic mathematical object which reveals more detail as you get closer. Explore the most famous example of these, the Mandelbrot set, by changing the colour palette and zooming in. Generate wild graphics for yourself, too.

I-CHING

http://cad.ucla.edu:8001/iching

If you're not happy with your fortune as told by this

What's on

interpretation of the Chinese I-Ching, you can always reload and get another one.

LITE-BRIGHT

http://www.galcit.caltech.edu/~ta/lb/lb.html

This is fun. You insert coloured pegs into a board, one colour at a time, to create a pretty picture. After you've finished, you can title it and then submit it to the gallery for others to admire.

MR POTATO HEAD

http://www.acsu.buffalo.edu/cgi-bin/potato

Create your own, customised Mr Potato Head.

NATHAN COCHRANE'S HOME PAGE

http://www.iinet.com.au/~nathan/index.html

An original source page of game reviews and pre-release information.

PLAY BATTLESHIPS

http://manor.york.ac.uk/htdocs/bships.html

A one-way game of battleships against the computer. There is a way to cheat – see if you can work it out.

SEGA

http://www.segaoa.com

News, special events, promotions, new releases, hints, product descriptions, screen shots, audio/video clips and support for Sega computer games.

THE CHESS SERVER

http://www.willamette.edu/~tjones/chessmain.html

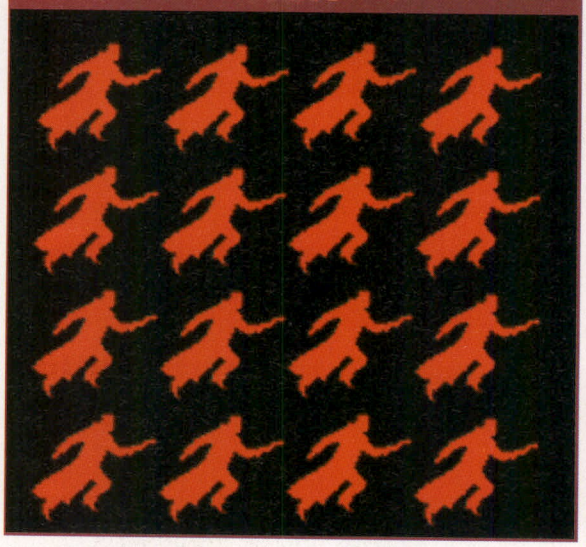
This experimental server allows two people to play chess over the Web. Multiple games can be played simultaneously and any number can watch. It has a realistic graphical interface which makes a pleasant change for those who have played on bulletin boards.

THE FASCIST GAME

http://wombat.doc.ic.ac.uk/fascist/fascist.html

You'll take ages to figure out this strange email game. It's not that it has no rules. On the contrary, the object is to make them up. If they are accepted, your score changes in a way you won't be able to understand until you've spent some considerable time here. Confused? That's the general idea.

NEW



INTELLIGENCE WATCH REPORT

http://sisko.awpi.com/IntelWeb/index.html

Spookness abounds on this international intelligence watchdog service. The Intelligence Watch Report gives brief updates on political disturbances, terrorism and subterfuge across the world. The Secrecy and Government Bulletin, published by the Federation of American Scientists, challenges excessive government secrecy in the US.

THE GAMES DOMAIN

http://wcl-rs.bham.ac.uk/GamesDomain

There are absolutely oodles of game pages, FTP sites and gamezines on offer here. This is the largest and possibly the speediest server of its type, and yes, of course Doom is here.

URL ROULETTE

http://kuhttp.cc.ukans.edu/cwis/organizations/kucia/uroulette.html

You'll stumble across gems you'd otherwise never discover with this random navigator.

YOU ARE PEEPING TOM

http://133.38.149.19:80/=@=:maki.ke.ics.saitama-u.ac.jp/

This Peeping Tom camera excites with glimpses of the back of some Japanese computer boff's head. Or maybe it's an airconditioning duct. Wow, let's set it to music.

Government

CCTA GOVERNMENT INFORMATION

http://www.open.gov.uk/

This prototype offers relatively sketchy information but invites feedback about UK Government operations. There are also links to the DTI and the National Rivers Authority.

CIA FACTBOOK ON INTELLIGENCE

http://www.ic.gov/facttell/toc.html

There is lots and lots of info on the CIA here. You can find out about its role in international affairs, the intelligence cycle, its history and real estate. But that's not what you're after is it? You've seen it on TV and in the movies and you want to know about political assassinations, arms deals, Latin American drug trades, spy satellites, conspiracy theories, phone tapping, government-sponsored alien sex cults and the X files. You must have the wrong CIA.

DEPARTMENT OF HEALTH

http://www.os.dhhs.gov/

The US Department of Health server contains useful information on finding your way through the US health service, plus public access information on topics such as cancer and Aids.

ENERGY INFORMATION

http://apollo.osti.gov/html/eia/eiahome.html

Somewhere among the hoards of waffle on this US Government energy administrator, you might find some indication of the future of fuel resources.

FEDWORLD

http://www.fedworld.gov

The US Government set up this Test Web server – a graphics-intensive home page that can take a long time to load. It can take a while to get access, but when you do, you'll find yourself linked to a growing database of information from one of the world's largest bureaucracies.

HER MAJESTY'S TREASURY

http://www.hm-treasury.gov.uk

Press releases, ministerial speeches, minutes and economic forecasts – you can subscribe to a mailing list to receive news and even read the budget. It has to be said that this is rather dull, but at least it shows the Goverment is waking up to the existence of the 'information superhighway'.

I'M-EUROPE

http://www.echo.lu/

This home page, an initiative from the Director-General XIII of the EC, provides the WWW with information about Europe and the European electronic information market. There is some riveting reading here, including the much sought after unexpurgated version of the Maastricht Treaty.

JAPANESE PRIME MINISTER

http://www.kantei.go.jp

This server is located in the Prime Minister's official residence in Tokyo, but the service itself is experimental rather than official. About all you get from this inscrutable site is some general information about Japan. Unlikely to become one of Today's Cool Places.

US CENSUS BUREAU

http://www.census.gov/

There are more statistics here about the US and its citizens than you'll ever want to know. You can search the main census database, read press releases, view the poster gallery, check the projected population clock, listen to clips from radio broadcasts or link to other serious info-head sites from the hotlist.

US DEPT OF STATE

http://dosfan.lib.uic.edu/dosfan.html

Take a photographic tour, browse the organisational chart or go straight to the Department of State Foreign Affairs Gopher for information on US treaties, global affairs and general foreign policies.

US FEDERAL GOVERNMENT SERVERS

http://www.fie.com/www/us_gov.htm

Extensive listing and contents of US federal government servers.

Health

DENTAL NET

http://www.dentalnet.com/dentalnet/

An online dentist complete with assurances that it won't hurt.

GUIDE TO WOMEN'S HEALTH

http://asa.ugl.lib.umich.edu/chdocs/womenhealth/womens_health.html

Abundant pointers relating to women's emotional, physical and sexual health, this site covers a wide range of topics such as partner violence, shyness, bulimia, dating, contraception and piles.

MEDICAL ILLUSTRATORS

http://siesta.packet.net/med_illustrator/Welcome.html

Shopping for raw, fleshy graphics? Look no further. This site acts as an Internet hub for medical illustrators to showcase their craft.

ONLINE ALLERGY CENTER

http://www.sig.net/~allergy/welcome.html

Online advice, news and diagnoses for allergy sufferers.

THE DRUG PAGE

http://cyborganic.com/drugz/

Links to information, ezines, FAQs and experiences relating to drugs of all sorts.

THE VISIBLE HUMAN PROJECT

http://www.nlm.nih.gov/extramural_research.dir/visible_human.html

This project generated a lot of publicity, not just for itself but for the Internet's use as a visual teaching aid. What really caused the stir, and what isn't mentioned here, is that the pictures are of the thinly sliced frozen body of an executed serial killer. The image database contains 1878 CT scans, obtained by sectioning the body into 1mm thick fillets and capturing a digital colour image at every level. This is intended to be used for teaching applications such as identifying anatomical structures on the cross-sections and visualising the motion of the human form using supercomputer modelling. It's gruesome, but all in the name of science.

WORLD HEALTH ORGANISATION

http://www.who.ch/Welcome.html

As well as press releases, newsletters, programmes and international travel and health advice, this site contains contact directories from the World Health Organisation in Geneva. It's not a bad source of other health links, either.

NEW

POISONS INFORMATION DATABASE

http://biomed.nus.sg:80/PID/PID.html

Imagine, you're somewhere between Gooloogaba and Giligulgul with your hand halfway up your swag when Joe Blake slithers between you and your corned beef sandwiches. No worries, just patch your notebook into the Net through your trusty cellular phone, log into the Poisons Information Database in Singapore, identify the snake, prescribe the antivenom, book a hospital bed, rip open a tinny, and wait for the flying doctor to arrive. Ahh, the future, it's finally here!

Internet Resources

A BEGINNERS GUIDE TO HTML

http://www.ncsa.uiuc.edu/demoweb/html-primer.html

A very long primer on HTML and an excellent one at that. It doesn't just explain the code, it gives style hints, trouble-shooting advice and suggestions on how to avoid errors.

ABOUT THE INTERNET

http://www.internic.net/infoguide.html

A good starting page if you wish to delve into the history of the Internet or just generally learn how it's set up and who runs it. This is for the 'up and running' traveller and is not a 'how to' guide (there are plenty of those already). There are pointers to Internet organisations, the InterNIC Directory and Database services, information on the Internet culture, netiquette, Internet 'personalities' and Net archives, including the Internet monthly reports.

BEST OF THE WEB AWARDS

http://wings.buffalo.edu/contest

This site contains a list of the world's finest Web sites, as declared at the May 1994 International WWW Conference in Geneva. It's divided into different categories, like best commercial site, best entertainment site, best navigational aid, best

What's on

document design and best use of interaction. Make up your own mind.

BLACKLIST OF INTERNET ADVERTISERS

http://math-www.unipaderborn.de/~axel/blacklist.html

Find out how to deal with electronic junk mail and pesky advertisers buzzing your favourite newsgroups. There's also a list of crafty Net abusers, which aims to discourage you from joining their ranks.

CERN

http://www.cern.ch

Cern, the European Laboratory for Particle Physics in Geneva, is the definitive source of information about the World Wide Web, which was intially developed by Tim Berners-Lee to aid collaboration in physics research but has since seen far wider acceptance. This server contains a wealth of vital Web information, including the extensive WWW Virtual Library (see Libraries).

DATA INTERCHANGE STANDARDS

http://www.disa.org/

This site is designed to disseminate information about electronic data interchange and its effect on business and Net commerce.

FOR YOUR INFORMATION

FTP: ftp.nic.nnsc.nsf.net/fyi/fyi_04.txt

I've just got on the Internet – what can I do? What's a Gopher? What's the World Wide Web? How do I find someone's email address? This file sets out to answer the questions commonly asked by new Internet users and deals at length with the Internet's evolution, explaining how technical and policy issues are decided. All should be clear and accessible, even to a newbie.

GRAPHICS FOR YOUR PAGES

http://www.rfhsm.ac.uk:70/0/people/gifs/index.html

Useful paragraph dividers, icons, arrows, buttons and dingbats for Web page design. Rather than copying the picture file directly into your HTML directory, you refer to each image's unique URL.

NEW

THE AVENGER'S HANDBOOK

http://www.cs.uit.no/~paalde/Revenge/index.html

There'll be no more Mr Nice Guy once you've paid a visit to this armoury of extreme nastiness. Much of it is compiled from the archives of the Usenet group alt.revenge, the definitive meeting place for suburban terrorists. There are some vicious programs to foul hard drives and annoy your sysop, things to do before you quit your job, school pranks and oodles of treacherous anecdotes about getting even. John Steed would never stoop this low.

HITCHHIKERS GUIDE TO THE NET

FTP: nic.merit.edu/documents/rfc/rfc1118.txt

This sounds as though it's going to be quite hip, but in fact it's a fairly worthy 24-page treatise on the origins and operation of the Internet. For the uninitiated, it goes some way to explaining what it's all about, but it's all rather dry and technical. There are a few hints on how to be a good Internet neighbour but really it's one for the Net historians only.

INTERNET COMPUTER INDEX

http://ici.proper.com

The limited information, divided into PC, Mac and Unix categories, on this site means beginners might find it useful as a launch point for mailing list information and online publications. However, its search index for reviews in *PC Magazine* only returns issue and page numbers. You might be better off reading a couple of printed monthlies.

INTERNET UNDERGROUND

http://www.engin.umich.edu/~jgotts/underground.html

This site, while disclaiming illegal encouragements, compiles detailed information on phone tampering, encryption, hacking and the hacker subculture. Even if you have no intention of trying out any of these schemes, it can provide you with an illuminating insight into the mindset of hackers and a better understanding of communication networks.

PUBLISHING ON THE WEB

http://www.webcom.com/html/

This guide to preparing your own pages isn't bad, especially if you are compelled to do it all from first principles. It goes into great detail explaining the code, its uses and its limitations. Fortunately there are an increasing number of compilers, forms and software extensions becoming available, which can automate a lot of the hard work.

THE INTERNIC

http://www.internic.net

InterNIC provides information on Internet access, use and network connection. This service is provided by heavyweights AT&T, General Atomics and Network Solutions, and it's a very useful starting-out point for beginners.

YOUR OWN DOMAIN NAME

http://www.wired.com/Staff/justin/dox/domains.html

Find out how to look up and register your own domain name, using both official and subversive means.

ZEN AND THE ART OF INTERNET

FTP: ftp.csn.net/pub/net/zen

A free ASCII or Postscript version of this book is here via FTP – find out more about the Internet, including topics such as TCP/IP and domains.

Internet Search Tools

CITYSCAPE'S USERS

http://www.cityscape.co.uk/users/wwwdir.html

Cityscape's free Web pages offer

users a mixed basket of the mildly commercial to the indulgently personal.

CUI INDEX

http://cui_www.unige.ch/w3catalog

An excellent textual browser maintained by the Centre Universitaire d'Informatique in Geneva which allows you to search summaries of several Web catalogues to produce detailed links. The catalogue currently contains 12,308 entries.

FREE STUFF FROM THE INTERNET

http://power.globalnews.com:80/freestuff/buyaccess.html

How to get the sort of stuff listed at Yahoo or WWW.emap.co.uk without paying someone to tell you where it is. It's amazing how alluring that word 'free' is. A rip-off of the highest order.

HARVEST

http://harvest.cs.colorado.edu/

Another excellent WWW keyword browse and search tool with less duplication than others such as Lycos and the WWWW. The reference database is collated from content summaries, anchors and HTML strings and contains over 22,000 WWW home pages. Make sure this is in your toolkit.

HOMEPAGE PUBLISHER

http://www-bprc.mps.ohio-state.edu/HomePage/

Here's a chance for you to try your hand at page publishing. This service lets you create your own page using a forms-based HTML editor. Pictures can be imported by reference to another URL but best of all it's free. What more could you ask for?

INFOSEEK

http://infoseek.com

Infoseek allows you to search a database of WWW pages, the most recent six weeks' Usenet, Newsbytes International Computing Industry News, Cinema Reviews, FrameMaker 4.0 Help Notes, Hoover's Masterlist of US Companies, Wire Services, Computer Select, InfoWorld and Hoover's Company Profiles. Unlike much of the competition it is always accessible, can search through the entire body text of Web pages and Usenet, has an ultra-forgiving interface and can give you a report on all the news postings from a single email address instantaneously. You can try it for a month free, but after that it costs about $10 per month. Step aside, Lycos!

LYCOS DATABASE

http://fuzine.mt.cs.cmu.edu/

This massive index maintained by Carnegie Mellon University is the best place to start a Web search. This Web crawler generated index searches, document titles, headings, links and keywords, usually returning more hits than any other tool. Whether they will be useful ones is another matter, though.

NETIZENS

http://gnn.com/cgibin/imagemap/HOME?62,341

Create a link to your own home page or browse this GNN list by name and choose one randomly – it's a bit of a lucky dip.

NEWSGROUPS IN OXFORD

http://www.lib.ox.ac.uk/internet/news/

This automatically compiled list works like a Gopher menu and allows you to browse news FAQs accompanied by brief descriptions. However, you'll need to configure your WWW client to point at a suitable NNTP server to take advantage of the hyperlinks.

SUBJECT-ORIENTATED CLEARINGHOUSE

http://www.lib.umich.edu/chhome.html

This guide provides links to subject-orientated Internet resources by providing a menu from which to start your search. It's like a stiffer, less attractive, version of Yahoo but just as useful.

THE REVOLVING DOOR

http://www.galcit.caltech.edu/~ta/cgi-bin/revdoor-ta

You can add your favourite URL, delete a URL or visit one already on the menu. This makes it an ever-changing and quasi-democratic hot list maintained entirely by visitors.

TODAY'S COOL SITE

http://www.infi.net/cool.html

If your site is listed here it will guarantee a traffic surge of at least a few thousand.

UK INTERNET LISTS

http://www.tardis.ed.ac.uk/~paola/inetuk/

This is the best set of UK Internet resource lists you will find anywhere on the WWW. If you're shopping for a connection, you can compare Internet access providers' details here and then click on a link which takes you straight to their home pages. There are lists of Internet consultants, training courses, publications and a hotlist chock full of links to useful information, guides, tools and services.

VERONICA

Gopher: gopher.scs.unr.edu

Veronica (Very Easy Rodent-Oriented Netwide Index to Computerised Archives) is a utility which allows you to carry out keyword searches of Gopher menus.

WHO'S WHO ON THE INTERNET

http://web.city.ac.uk/citylive/pages.html

Not what you'd think, but the WWW Virtual Library's directory of individual home pages. Add your own, using the form, if you think you'll be heard above the general noise.

WORLD WIDE WEB SERVERS

http://info.cern.ch/hypertext/DataSources/WWW/Servers.html

You have the choice of sensitive map or hypertext link to search for servers in this regionally sorted list. It's great for finding country-specific information or just surfing the globe.

WORLD WIDE WEB WANDERER

http://www.mit.edu:8001/afs/sipb/user/mkgray/ht/web-growth.html

Apart from cryptically coded statistics on Web growth, this site provides links to 1,265 http sites, sorted by country.

NEW

PIZZA NET

http://www2.ecst.csuchico.edu/~pizza/

What a shame this experimental and example-setting online pizza delivery service only delivers graphic facsimiles and not the real McCoy. Wouldn't it be great to sit down to a piping hot feast of bugs, bolts, kittens, hammers, footballs, goblins and some of the other paraphernalia on the menu? Nevertheless, it does lay the foundation for a succesful fast food scheme.

What's on

However, other than the site code, no other information is supplied, so it's a bit like throwing a dart, but it's useful if you're after regional data.

WORLD WIDE YELLOW PAGES

http://www.yellow.com/

Yes, yes, yes. This is what we've been waiting for – a centralised business registry. It means you only have one place to look, rather than scouring every corner of the Net. It ambitiously sets out to be the 'Yellow pages for the next 100 years'. It's looking good so far, let's hope it can handle the traffic.

WWW VIRTUAL LIBRARY

http://info.cern.ch/hypertext/DataSources/bySubject/Overview.html

The extensive WWW Virtual Library is a powerful search tool that allows you to find information on almost any of the world's Web servers through a series of user-friendly keyword searches. This is a vital address so add it to your hotlist pronto.

WWW WORM

http://www.cs.colorado.edu/home/mcbryan/WWWW.html

Based at the University of Colorado, this server offers several good ways to search the Web with multiple references.

YAHOO

http://akebono.stanford.edu/yahoo

This is another indispensible addition to your browsing toolbox. Apart from the excellent menu-based browser, there are links to new, cool and popular sites. Menus may be several layers deep and can hyperlink you to Web sites, Gophers, news and FTPs.

Internet Software

AMIGA MOSAIC

http://insti.physics.sunysb.edu/AMosaic/

The Commodore Amiga is one of the many machines able to access the Internet. To download the latest version of the company's browser, simply click on the FTP archive link provided on this page. A complete preview of the browser, including embedded screen-shots, is available if you wish to appraise it before download. You may join the Amiga Mosaic mailing list by sending mail to witbrock@cmu.edu

ARCHIE

http://web.doc.ic.ac.uk/archieplexform.html/

Archie is a popular way to search anonymous FTP sites for specific files. Any WWW client can do a simple search, but for full searches you need forms-compatible client software such as Mosaic 2.0 or MacWeb.

CELLO

http://www.law.cornell.edu/cello/cellotop.html

This is the home page for the Cello Internet Web browser for Windows. Cello is primarily a Web client, but also has built-in support for FTP, NNTP news, phone servers and Gopher. Optional utilities can be used to extend this to WAIS, Hytelnet, Telnet and Telnet 3270.

CU-SEEME

http://www.indstate.edu/CU-SeeMe/index.html

CU-seeme has caused quite a stir around the Internet, because it offers public domain video conferencing for Macintosh and Windows. To broadcast video, you need a Video Spigot (Macintosh) or Windows multimedia-compliant video card (PC).

EINET

http://galaxy.einet.net/

Elnet's Web site not only houses the latest versions of its Macintosh and Windows Web clients (MacWeb/ WinWeb); it also contains a swag bag full of information on topics as diverse as architecture and current affairs.

LYNX

Telnet: millbrook.lib.rmit.edu.au (login: Lynx)

A virtual library maintained by the Royal Melbourne Institute of Technology in Australia, providing hypertext access to the Web using the Lynx browser. This features a textual rather than graphical interface, making it very like a Gopher menu, except with the click-on links expected from Mosaic.

NCSA

http://www.ncsa.uiuc.edu

This essential site is the home of Mosaic, the widely used Windows and Macintosh-based Web browser. It has the latest versions of most Mosaic-related tools including the GIF and JPEG viewers and multimedia players, along with documentation in varying degrees of complexity.

NETSCAPE

http://home.mcom.com/home/welcome.html

This is the most complete set of Internet resources accessible from one site anywhere on the Web, making it a great default home page, and the warren of pointers to browsers, Gophers, virtual maps, catalogues and directories will probably have you lost underground for hours. Tutorials range from getting started through to designing your own pages. The formerly wonderful 'what's new' has moved to Yahoo but the 'what's cool' is still worth the visit.

SPRY

http://www.spry.com

Home of the first commercial version of Mosaic and Internet in a Box.

Legal

ADVERTISING LAW

http://www.webcom.com/~lewrose/home.html

Advertising law, at first sight seems very basic. If you're honest, you might think, you shouldn't have any problems. However, it is getting decidedly more tricky with hot issues such as privacy, semantics, product safety, testimonials, environmental issues, baiting and refunds. With the meteoric speed of the Internet's acceptance as an advertising medium, it's very hard for even the legal profession to keep up.

BENTHAM ARCHIVE OF BRITISH LAW

http://www-server.bcc.ac.uk/~uctlxjh/Bentham.html

Access to University College,

NEW

ANDERS MAGICK PAGE

http://www.nada.kth.se/~nv91-asa/magick.html

Nope, you won't find card tricks, Uri Geller or any such hokum pokum here, this is the corn-thumbed version, spelt with a 'k'. What you will find is an immense stash of links to alternative spiritualist groups, strange orders, superstitions, soothsayers and mystical literature. It's all stuff you should know better than to believe in, but it still makes compulsive reading. There are gateways to the Freemasons, Rosicrucians, Temple of the Psychic Youth and Builders of the Atydium, as well as works on Voodooism, Druidism, divination, astrology, alchemy, and so much more it casts an eerie light on the human condition.

London's legal archives, plus pointers to other legal wells. There are also particular focuses on criminal and property law, Usenet threads and essential lawyer jokes. The criminal law area even has a section on general defences – how to get away with it, once you've been caught.

INTERNET USER DETAINED

http://raptor.sccs.swarthmore.edu/jahall/dox/freakout.html

This is a first-hand account of police surveillance of Internet postings. This user requested advice on suicide drugs and wound up in the lock-up for two days.

WEST'S LEGAL DIRECTORY

Gopher: 163.231.231.3

Profiles of more than 500,000 attorneys and law firms in the USA. If you want to make lawyer jokes, don't do it here please!

Libraries

BRITISH LIBRARY

Gopher: gopher.bl.uk

A Gopher-based pilot service which provides a marked contrast to what's on offer from the US Library of Congress, this service is dubbed Portico, includes information about how the library is organised, how to use it, and a notice board. It's also possible to search documents by key words. Given the library's years of experience in online information, one expects something more exciting.

CABOT SCIENCE LIBRARY

http://fas-www.harvard.edu:80/libraries/cabot/cabot.html

This Harvard University Library's new Internet presence is an ideal place to start off any scientific research. Apart from information about the library's catalogue and policies, there are links to the *Harvard Computing Review*, *Elektra* and other online student publications, plus external databases.

EDUCATIONAL TEXTS

Gopher:etext.archive.umich.edu

This archive contains hundreds of thousands of words, ranging from the complete works of Shakespeare to the script of a lost episode of *Star Trek*. Only pornographic images are banned. Consequently, users are warned they may find some of the material offensive. Despite some fairly extensive trawling, the most offensive stuff seen so far was some truly appalling poetry. This site can also be accessed via FTP at the same address.

LIBRARY OF CONGRESS

http://lcweb.loc.gov/homepage/lchp.html

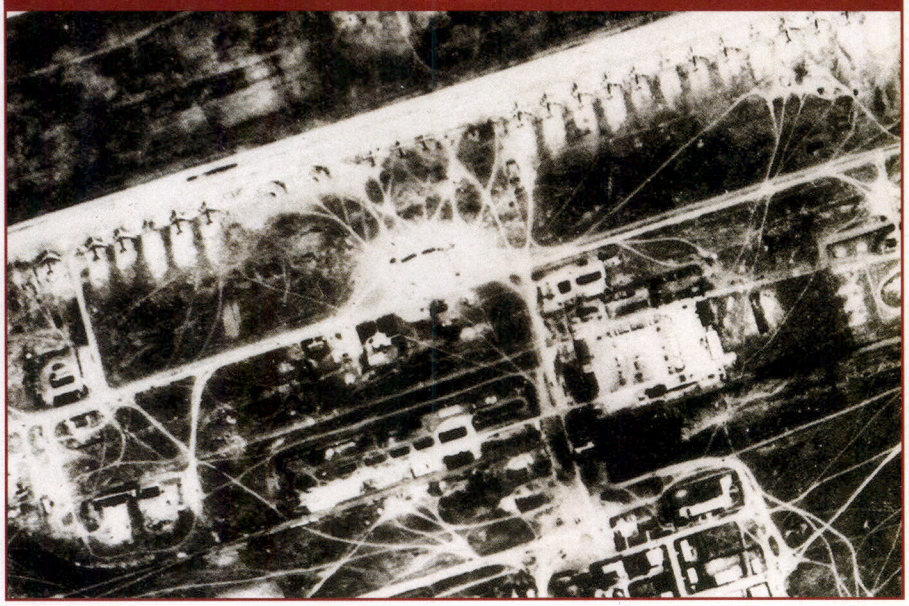
An attractive colourful front-end which is slow to load but worth the wait. Apart from the US Government information and reference library sections you'd expect, there are electronic versions of recent exhibitions at the library – complete with photographs and illustrations. There are also pages of the Global Electronic Library currently under construction.

VATICAN LIBRARY

http://www.ncsa.uiuc.edu/SDG/Experimental/vatican.exhibit/Vatican.exhibit.html

Visit several virtual 'rooms' in the Vatican, including a library, a music room and a nature room.

NEW



DECLASSIFIED SATELLITE PHOTOS

http://edcwww.cr.usgs.gov/dclass/dclass.html

This is what you've been expecting to stumble across on the Net – the first spy pictures taken from satellites and then dropped to earth by parachute. They've just been declassified and there are plenty more to follow. Look closely and see the Soviets knitting socks in preparation for a cold winter.

Museums

FIELD MUSEUM OF NATURAL HISTORY

http://www.bvis.uic.edu/museum

This Chicago museum has placed a multimedia tour of its DNA to Dinosaurs exhibit. You can page through the eras, downloading movies and sound bites. There's also a display of Javanese masks and more to come. One to show the kids.

THE EXPLORATORIUM

http://www.exploratorium.edu

This is a great attempt to bring a museum online. There are practical details, plus attempts to bring to life some of the San Francisco Exploratorium's 650 interactive exhibits. To get the full effect of the Exploratorium pages, your system needs to support the JPEG picture compression standard.

Music

BEATLES

http://bazaar.com/Beatles/

This is another fun page from the house that brought you Megadeth. It's not the usual clips, discography and tour dates-type service. Instead, you can send Beatles postcards, Telnet into a Beatle chat session, read about the new *Live at the BBC* release, hear various vocal samples, enter sweepstakes and indulge in a host of other Beatles trivia. As with the Megadeth server, it's well designed, looks great and you don't have to be a fan to enjoy the site.

BUZZCOCKS HOME PAGE

http://www.cityscape.co.uk/users/ac46/indbuzz.htm

This attractively presented site features all album covers, most lyrics, and far too few track cuts. Although it's still under construction, it's getting plenty of attention. You can even send fan email to Pete.Shelley@cityscape.co.uk

CYBERSIGHT HOT URL MUSIC LIST

http://cybersight.com/cgi-bin/cs/nnnn/Music

This page allows you to hyperlink to a music page and then return and rate it with either a thumbs-up or a thumbs-down. There's about a hundred listed, including the Buzzcocks,

What's on

Bjork, Ministry, the Orb, Sisters of Mercy, Morrissey and many more.

DEAD CAN DANCE

http://www.nets.com/dcd

If you haven't been exposed to the hauntingly beautiful music of the UK gothic group Dead Can Dance, here's your chance. There is a 15-second cut from every song in the band's eight-album history, as well as the usual biographies and tour details.

ELVIS PRESLEY

http://tamsun.tamu.edu/~ahb2188/elvishom.html

Yes, Elvis is alive and living in cyberspace. This shrine, created by schoolgirl Andrea Berman to 'honour Elvis and his cultural and musical legacy', is a must for fans. Visitors can tour Graceland, starting outside those famous gates. Listen to sound clips from classics like Love Me Tender, Heartbreak Hotel and Hound Dog.

EMPTY TV

http://www.galcit.caltech.edu/~ta/mtv/main.html

A parody of Music Television (MTV) and Adam Curry's Metaverse (see below). It can, however, be hard to get on to.

HYPERREAL

http://hyperreal.com/

Techno/ambient/rave archives featuring reviews, lists, publications, drug discussions, tools and shareware, sound samples, DJ sets, FAQs and links to other sites.

INDUSTRIAL MUSIC

http://www.eecs.nwu.edu:80/~smishra/Industrial/

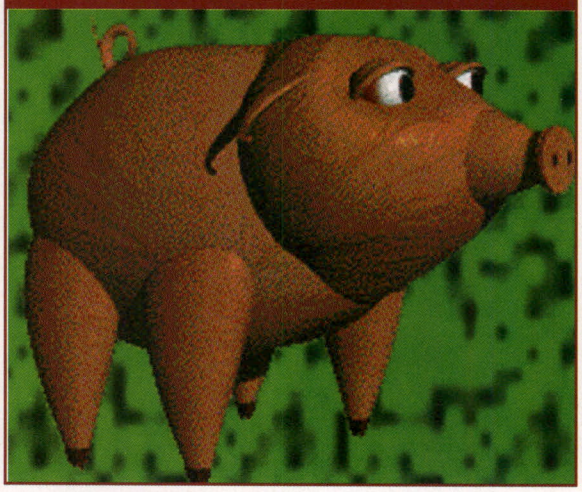
If you want to volunteer to take over or help with this site you'll be greeted with open arms. That's if you're into the likes of Einstürzende Neubauten, Negativland, Skinny Puppy, Cabaret Voltaire and Ministry.

IUMA

http://iuma.southern.com

It's a good idea to choose the dull textual mode wherever possible on this graphically intensive site. Indexing is not as efficient as it first appears and you will be lucky to find much that's familiar. What you will discover is a treasury of audio clips by new talent. This site is the European mirror and should eventually develop a stronger local flavour.

NEW



BAD TASTE RECORDS

http://www.centrum.is/badtaste/

Iceland's Bad Taste Records, founded and managed by the Sugarcubes, whose lead singer Bjork has recently risen to iconic mainstream acceptance, has been making a valiant effort to bring the country's underground talent to the world's attention. Despite this, most of the samples to download here are from groups you're unlikely to ever hear anywhere else. Cast aside your preconceptions, take the time to browse and you'll be rewarded by fresh blasts of arctic artistry.

JAPANESE INDEPENDENT MUSIC

http://www.atom.co.jp

The exploding, yet unfamiliar Asian pop scene may not be the next big thing, but it may just be the next big thing after that. Keep watcing this spot.

JOHN PEEL'S PLAYLISTS

http://www.bbcnc.org.uk/bbctv/radio1/JPeel_top.html

See them here two years before they chart in the UK and 15 years before Rolling Stone catches on.

KRAFTWERK INFOBAHR

http://www.cs.umu.se/tsdf/kraftwerk

Demos, live out-takes, interviews, lyrics, and the complete discography of the German techno pioneers Kraftwerk can all be found at this location. There's also a selection of clones and other synthetic groups.

MEGADETH, ARIZONA

http://www.bazaar.com

Even if you're not a fan of heavy metal band Megadeth, this site is a fine example of superlative HTML design. What's really smart about these barbed wire-capped pages, and something every designer should note, is the bottom menu bar which travels with you and lets you know where you've been. There's plenty for fans, a terrific set of screensavers featuring Megadeth animations and sound bytes, Troma Films' pages (makers of such classics as The Toxic Avenger and Chopper Chicks From Zombie Town), horoscopes, Megadeth archives and merchandising. Prepare yourself.

METAVERSE

http://metaverse.com

A US music and entertainment service that acrimoniously grew out of MTV (MTV sued to get the exclusive use of the domain name mtv.com, the previous name for the Metaverse Service). There's a range of sections of information about concert tours, new releases, videos, and unsigned bands promoting themselves. This service has become more commercial recently, with reader offers and shopping being added to the mix.

MOTOWN RECORDS

http://www.elmail.co.uk/music/motown

You won't find the Manic Street Preachers' first single here at the home page of Detroit's Motown Records. What you will find are clips and news from a selection of new, former and faithful artists, all with that unique Mo'town soun'.

MUSIC RESOURCES ON THE INTERNET

http://www.music.indiana.edu/misc/music_resources.html

You'll be overwhelmed by the quantity of music-related sites featured here. They're split into academic, non-academic, user-maintained, geographically local sites and artist-specific sites. These are further split into WWW, Gopher, Telnet and FTP divisions.

MUSIC VIRTUAL LIBRARY

http://www.oulu.fi/music.html

This rich seam includes a comprehensive catalogue to all kinds of music information on the Internet, a Midi home page, an online version of the *All Music Guidebook*, and homes pages for artists, from Tori Amos to Frank Zappa.

MUSICBASE

http://www.elmail.co.uk/music/

This database features news on the UK music scene and showcases such talents as the Stone Roses, Human League, PWEI, Terrorvision, Blur, Eternal, Positiva and Kickin' Records. It's expanding rapidly and should develop into a great site.

MUSICLINK

http://tito.hyperlink.com/mm/

MusicLink offes a UK-based, site-building service to bands and music companies looking to publish on the Internet. The Orb and Penguin Cafe Orchestra are early starters.

NETTWERK PRODUCTIONS

http://www.wimsey.com/nettwerk/

Home to such progressive fringe artists as Single Gun Theory,

Severed Heads, MC 900 ft Jesus, Sarah Mclachlan, Consolidated and the Falling Joys. Not all artists have the own page yet, but watch this site as Nettwerk often finds a sound several years before the mainstream.

NW2NOISE

http://www.maires.co.uk:80/nw2n/

Great noise orientated independent showings from the likes of Bumgravy, Headbutt, Free Kitten, Guv'ner and Huggy Bear.

PLANET STARCHILD

http://www.mcs.com/~bliss/starchild/home.html

A surprisingly business-like board covering the entire constellation of indie music. Some of the featured artists offer downloadable self-running promo kits for you to sample.

RA HOME PAGE

http://www.southern.com/RA/

Ra calls itself an authorised ezine of ezines. It's trying to attract as many artists, bands and labels as possible in the ambient/experimental/trance/techno world and bring them together as individual sites. All sorts of new and eclectic stuff is likely to emerge in the near future.

REM

http://www.halcyon.com/rem/index.html

If you think REM are dull, this collection of FAQs, lyrics, guitar chords, photos, articles and links to other archives is unlikely to change your mind. File next to Renee and Renato and REO Speedwagon.

ROLLING STONES

http://www.stones.com

Set up to promote the Stones' recent Voodoo Lounge album and tour, this features tour dates, text and video interviews with the Stones. This was the site of the autumn 1994 live Internet concert broadcast which, although not a critical success, was a brave and pioneering foray into what may one day be mainstream. The video clips are a great idea, but in the time it takes to deliver the Quicktime movies down even a fast modem connection you could form your own R&B band.

STEREOLAB

http://www.maths.monash.edu.au/people/rjh/stereolab

Discography, samples, news, interviews, reviews, pictures, T-shirts and tour dates from the UK's finest 'groop to play space-age batchelor music'.

SUB POP RECORDS

http://www.subpop.com

Mail order and archives from the cheery Seattle home of the sadly defunct Nirvana, Mudhoney and their ilk.

SURF THE INTERNET MUSIC RESOURCES

http://www.ozonline.com.au/TotalNode/AIMC/Surf.html

This is a huge collection of less mainstream international music links and a separate section of Australian Independent pages. The excellent Ausmusic page features previews of emerging talent and radio schedules of off-beat stations.

VIVARIN LYRICS SERVER

http://vivarin.pc.cc.cmu.edu/lyrics.html

Read song lyrics from just about every pop group ever, from A-Ha to 999. The range will amaze and astound you.

YELLO ON THE NET

http://yello.Space.NET/yello

This is not just another music site: you can feel the presence of the eccentric Dieter Meier and Boris Blank lurking in the background. There's a full discography, and while you can't yet download any songs, you can transfer a few of the raw samples from which Yello created their latest single, and a segment of their recent Zebra video, to your computer.

NEW

THE RAFT

http://www.vmg.co.uk

You'd never know it unless you were told, but this is Virgin Records' home page. As such you will find multimedia tidbits from several featured artists, such as Verve, Massive, Boy George and Whale, as well as new talents on the Hut label. It's groundbreaking in several ways with its product – rather than brand – focused marketing, borderless images, multi-storyboarded unsignposted trips, coloured text and musical screen savers. It's a site for sore eyes and ears.

Nature

ARBORICUTLTURAL STUFF

http://www.sccs.swarthmore.edu/~justin/Docs/arbor.html

A set of guidelines for correct tree pruning.

BRITISH TREES

http://www.u-net.com/trees/home.htm

A guide to native British trees referenced by common or Latin names. There is plenty of information but no pictures.

COW HOME PAGE

http://netvet.wustl.edu/On:\cows.htm!/

A rich collection of pointers to bovine resources all over the Web, including futures spreads, dairy software, animal evaluation, body condition algorithms and health papers.

COWS CAUGHT IN THE WEB

http://www.brandonu.ca/~ennsnr/Cows/Welcome.html

A curious attempt to find humour in the holiest of all beasts.

ENTOPLATH

http://www.msstate.edu/Entomology/ENTPLP.html

This server at Mississippi State University features news, course ▶

What's on

outlines and publications on entomology and plant pathology. It provides links to newsgroups, newsletters, similar servers and the Mississippi Entomological Museum.

HOUSSEN'S DOG'S WORLD

http://www.houssennet.nb.ca/DogWorld.htm

Buy the training video or download the free textbook. Either way, Rover will soon know who's boss.

NETVET VETERINARY RESOURCES

http://netvet.wustl.edu/

Links to veterinary resources such as the Electronic Zoo, NetVet Gopher server, NetVet WWW server and the Veterinary Medicine page of the WWW Virtual Library.

THE ELECTRONIC ZOO

Gopher: netvet.wustl.edu:70/11n%3A/e-zoo

A Gopher list of resources related to all fauna. As with all gopher menus, it may lead you all over cyberspace before you find what you're looking for and despite the name it's not a virtual zoo with animations and soundbites. However, if one arrives you'll probably be able to find it here.

THE ENVIROWEB

http://envirolink.org

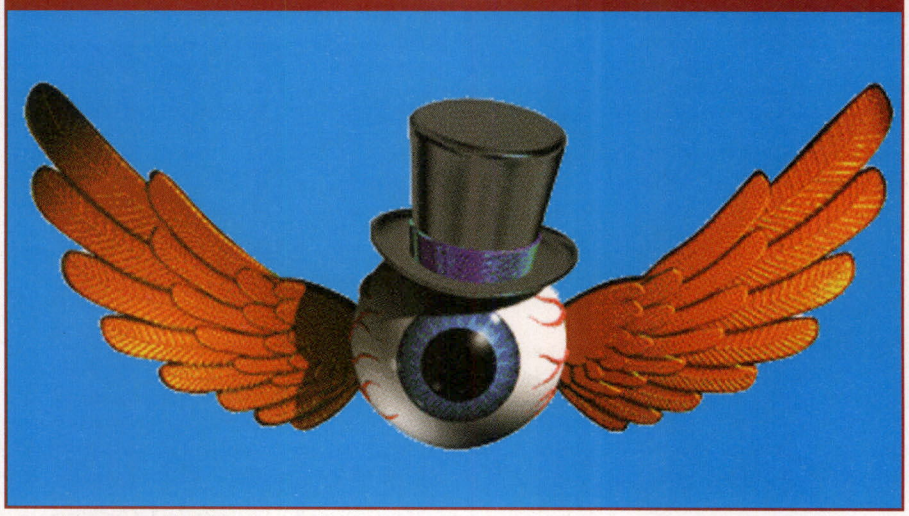
Very impressive at first sight, the EnviroWeb claims to be the largest online environmental information service on the planet. All sections boast the prefix 'enviro'; there's an EnviroFreenet, an EnviroForum, an EnviroNews service and so on. Some of these areas are still under construction but there's a mass of information already there. This is an essential spot if environmentalists.

THE ROYAL BOTANIC GARDENS, KEW

http://www.rbgkew.org.uk/

This server forms part of the RBG Kew's mission to ensure better environmental management by increasing botanical understanding. There's not a lot here yet, other than information on poisonous plants, links to similar servers and details of mailing lists, but no doubt development is an organic process.

NEW



THE RESIDENTS

http://www.csd.uwo.ca/~tzoq/Residents/

Finding online information about the world's finest and weirdest neo-classical group is almost as hard as figuring out its members. The Residents have performed anonymously, masked by their giant eyeball heads, since the early 70s, so efficient at concealing their identities that even their most avid fans remain in the dark. This site is maintained by one such devotee, and although it is the most dedicated tribute to the Residents on the Web to date, there are no actual sound samples, no movie clips and, of course, no pictures of their faces. If you've never experienced the band, you'll just have to go out and buy the records yourself.

THE VIRTUAL GARDEN

http://www.timeinc.com/vg/Welcome/welcome.html

These splendid horticultural resources are being constructed by Time Life, which intends the site to be the most comprehensive guide to gardening online. It's already that and it's still under construction. There are links to plant society magazines, special interest newsletters and gardening monthlies, all with interactive capabilities for editorial feedback and shopping. Parts of the new series The Complete Gardener are on show, including a searchable database which will recommend plants which are suited to your soil, zone, climate.

News

CLARINET NEWS

http://www.clarinet.com/

Clarinet is a high quality subscription news service providing newsgroup access to such big guns as Reuters, Associated Press and Newsbytes. A single user subscription costs about $40 per month, or cheaper if shared across a site.

CNN NEWS

gopher: info.umd.edu:925/11/

These up-to-the-minute news snippets are little more than headlines from CNN's stories of the day.

FREE INTERNET NEWS SOURCES

http://www.helsinki.fi/~lsaarine/news.html

This guide from the University of Helsinki in Finland offers a veritable smorgasbord of free lunches courtesy of the Internet's news providers. We love that word free, used throughout this huge comprehensive list, but ultimately you'll need to pay to receive the quality, quantity and currency you've come to expect from other media.

GAZETTA ONLINE

http://info.fuw.edu.pl/gw/0/gazeta.html

An experimental edition of Poland's biggest daily.

IGC HEADLINE NEWS

gopher: gopher.igc.apc.org/11/headlines

Ecologically aware news Gopher service from the Institute for Global Communications. Stories cover issues such as nuclear testing, refugees, corruption, racism, government policy changes and Third World crises.

NEW YORK TIMESFAX

http://nytimesfax.com

The New York Timesfax is an eight-page, condensed version of the paper normally distributed by fax. This, the electronic edition, can be downloaded daily and viewed with Adobe Acrobat. Acrobat is also available here, free.

PILOT ONLINE

http://www.infi.net/pilot/vpls.html

Not an aviation ezine but daily local news, weather and classifieds from the Virginian Pilot newspaper.

THE VOICE OF AMERICA

gopher: ftp.voa.gov/1

As far as free online news goes, this one from *The Voice of America* is quite good. You get daily feeds from stories broadcast on its international shortwave network, as well info about its other media activities.

TIME DAILY

http://www.timeinc.com/time/daily/time/latest.html

Daily news shorts from US Time, some with hypertext links to further information. These bulletins are concise but deliver the day's main international stories on one page.

UNITED NATIONS NEWS

http://nearnet.gnn.com/gnn/meta/travel/res/newsgath.html

This Gopher covers news of the United Nations' involvement in international affairs. The service is updated five times per week.

Politics

BLACK INFORMATION NETWORK

http://www.bin.com

This is the site of a non-profit organisation concerned with the African-American community.

FEMINIST ACTIVIST RESOURCES

http://www.clark.net/pub/s-gray/feminist.html

This site has hundreds of links to forums, articles, political action groups, legal documents, news items, feminist fun and games, women's organisations, counselling services and other topics of interest to feminists.

FRIENDS OF THE EARTH

http://www.foe.co.uk/

You can find out about Friends of the Earth's latest campaign, your nearest group, results of environment studies or how to join forces. There's also plenty of links to other environmental resources and groups.

GREENPEACE INTERNATIONAL

http://www.greenpeace.org/

The home page of the head office of Greenpeace International, located in Amsterdam. This site has links to its environmental library in Canada, its Ozone Campaign, information on environmental treaties, a photobook, green Gophers and other environmentally aware resources.

NOAM CHOMSKY ARCHIVE

http://www.contrib.andrew.cmu.edu/usr/tp0x/chomsky.html

Oodles of highly controversial articles on, interviews with, lectures by, quotes from and literary reviews of Noam Chomsky, Institute Professor of Linguistics at MIT and outspoken critic of US foreign policy. He can change the way you read the world.

PALESTINE INFORMATION

http://www.alquds.org/

This server promotes the Arabic culture and, in particular, the Palestinian situation. It provides its own Middle Eastern resources guide, with advice on mailing lists, news services and Internet resources, as well as links to many Arabic Gophers and Web pages.

REGENERATION MAGAZINE

http://www.poptel.org.uk/Regeneration/

This is the British Labour Party's attempt to reach out to UK youths online. Find out about the political process, how to start your own militant wing, or how to use its feedback facility to get them onto your case.

SPUNK PRESS

http://www.cwi.nl/cwi/people/Jack.Jansen/spunk/Spunk_Home.html

This page from Spunk Press, an electronic publisher of anarchist literature, acts as an index to anarchist resources around the Web, including a mass of subversive writing. It may seem paradoxical to find anarchists so well organised, but most of the writing adds up to an attack on capitalism rather than organised government. Some pieces earnestly recommend schoolboy mischief like sugaring police car fuel tanks, torching billboards, having sex in government offices and defecating in mailboxes. With notable exceptions, such as the works of Chomsky, this a dated, deluded, and retrogressive compilation.

THE GALLUP ORGANIZATION

http://www.gallup.com/

About 20% of visitors to this site fill out the questionnaires and opinion polls. Not a bad response compared to say, visitors to Barclays requesting credit card literature. Gallup promise to provide results of past surveys, which will keep you up to date with trends and ratings such as the fickle swings of Bill Clinton's popularity.

THE RIGHT SIDE OF THE WEB

http://www.clark.net/pub/jeffd/index.html

This is a directory of places and resources on the Net likely to appeal to those with a 'conservative point of view'. There is a directory of unique information, including reams on Rush Limbaugh, the reactionary network radio host, as well as material found on other servers. This includes details of right-wing newsgroups, Whitewater updates, and a link to the Ronald Reagan home page, which attempts to 'set the record straight'. Unless you're an expert on US politics, you may it all too esoteric. However, it's done with a sense of humour and is certainly interesting from a cultural perspective. Email to rightSide1@aol.com

US PEACE CORPS WEB

http://www.intac.com/PubService/peace-corps/peace-corps.html

This slow server is a privately funded service for past, present and potential peace corps volunteers. It provides history, joining details, country information, Usenet news links and social activities for returned volunteers. It's still a spartan service, but should grow.

Publishing

AMERICAN DEMOGRAPHICS

http://www.gems.com/marketing/american_demographics/index.html

A taste of the sort of marketing data and sociological analysis you can expect if you subscribe.

CASPER STAR TRIBUNE

http://www.trib.com

Unless you are interested in

NEW

MOON CITY

http://www.euro.net/5thworld/moon.html

This virtual tour of Amsterdam is a veritable labyrinth, not unlike the tulip capital itself. It's likewise frank, graphic and entertaining and can make you yearn for the freedom of expression enjoyed there. But it's not just marijuana yarns and erotic galleries, there are also guides to the city's food, music, art, history, attractions, cinema, bookshops and famous coffeeshops. If you can't make it in person, at least visit it here.

What's on

Casper, Wyoming, this will be more interesting for its feeds from Time, VOA and CNN and its great travel and finance links.

CENTER FOR CIVIC NETWORKING

http://www.earthweb.com:8000

This US organisation helps community and non-profit groups exploit the Internet's potential for low-cost publishing.

CHINA NEWS DIGEST

http://www.cnd.org/

This site houses access to several Chinese language publications, scenic pictures, Chinese home pages and information pertaining to China and the Chinese international community.

CHRONICLE OF HIGHER EDUCATION

http://www.chronicle.merit.edu

A Web adaptation of the well known US academic weekly, which includes the employment listsings.

ELECTRONIC JOURNALS

http://info.cern.ch:80/hypertext/DataSources/bySubject/Electronic_journals.html

A listing of magazines and periodicals available via the Internet, including links to either details or the full text of the publications. Those mentioned range from *3W*, the UK-based global network newsletter, to the *Electronic Green Journal* and *USA Today*. The file is extensive but users are asked to send news of additional titles. There is also some useful info about using the Net.

ELECTRONIC NEWSSTAND

http://enews.com

One of last year's most highly publicised Internet businesses, the Electronic Newsstand was set up as a browsing medium for users who may want to buy subscriptions to magazines. After you've selected magazine, periodical or journal from the main menu, you'll be launched into Gopherspace which can often mean a fair bit of trial and error to find anything interesting. Each publication has a mission statement, subscription offer, current issue details including contents, and at least one complete article plus archives.

NEW

MEXICO OUT OF BALANCE

http://www.igc.apc.org/nacla/mexico.html

Mexico's Zapatista rebels have received plenty of Nettention recently, with wild rumours of cellular connectivity blending with the reality of EZLN's declaration of war against the government. This is just a sample of what's crossing the Net.

FORTEAN TIMES

http://forteana.mic.dundee.ac.uk/ft

Fans of strange, unexplained and improbable phenomena will relish every entry in this taste of the UK magazine *Fortean Times*. Read about spontaneous combustion, alien sex-beasts, flying saucers, zombies, Uri Geller and surfing to the stars on warped space. Highlights of the last 20 years include bizarre photographs such as the 'magnetic man' and the 'kitten with wings'. You'll want more.

GUARDIAN ONLINE

http://www.gold.net/online/

Innovative UK national newspaper service supported by CityScape. Only Thursday's Online section and special arts features are available, at this stage. For access to the stories, there's a key word search engine that's baffling until you get to know it. This is a great way to get back-copy by subject or author without having to scan through reams of paper. Shame it tends to be so out of date.

INQUISITOR MAGAZINE

http://mosaic.echonyc.com/~xixax/Inquisitor/

This media-watch publication aims to take the hype out controversial media topics like gun control, AIDS...and semantics. You'll find a few samples and reviews here, but the goal is to get you to subscribe to the paper issue.

INTERNET AUSTRALASIA

http://www.interaus.net/magazine/welcome.html

Australia's first Internet magazine has many of its articles generously bared online.

MULTIMEDIA NEWSTAND

http://mmnewsstand.com

Probably as good a place as any to lodge subscriptions to one of the hundred-odd magazines here, from *Cosmopolitan* and *Esquire* to *Cruising World*, or to email order videos. Very few magazines give a sneak preview, contents or any details other than pricing.

PALO ALTO WEEKLY

http://www.service.com/PAW/home.html

The on-line version of a free newspaper covering the much-documented Palo Alto area in California. Outsiders will find the format more interesting than the content.

PANIX

Gopher: gopher.panix.com

This is a New York-based public access Internet service where 'anything legal' goes. At present it's no Manhattan Cable, offering as it does a mild mixture of New York City and restaurant information together with some unusual specialist sections, such as the one containing technical and chemical information about photographic film, and the excellent MIT Guide to Lock Picking.

SKEPTICS SOCIETY

http://www.primenet.com/~lippard/skeptics-society.html

The Skeptics Society, the private organisation of the intellectually curious, investigates the pseudosciences, paranormal and claims of fringe groups. At this site, you can subscribe to the magazine, order books and tapes, read newsletters and find out what's new in the world of scientific enquiry.

TECHWEB

http://techweb.cmp.com/techweb/default.html

It's a cramped messy looking home page but dig into the news search and you'll be astounded at how much technical and computing information is available. Apart from that you can browse through publications and even subscribe if you wish.

TELETIMES

http://www.wimsey.com/teletimes.root/teletimes_home_page.html

An ambitious free monthly from Vancouver, this invites (and needs) free contributions. In each themed issue, it has the odd interesting article, amongst more ordinary stuff. It's so well-presented, it is a pleasure to flick through, but as is often the case,

it is the potential that is most exciting.

WEB NEWSPAPER LIST

http://www.jou.ufl.edu/commres/webjou.htm

This site has links to US educational and experimental publications. For example, the *San Franciscan Gate* is good, allowing key word searches on back issues. Italian, Russian and Dutch teletext also appears.

Radio

NHK RADIO JAPAN

http://www.ntt.jp:80/japan/NHK/

Broadcasting schedules, timetables, propagation maps and info in 22 languages.

RADIO STATION WXYC

http://sunsite.unc.edu:80/wxyc/

This is the site of the first real-time radio station on the Internet. This page explains how to connect, what software you will need and gives broadcast details. You can pick up the software by FTP at this site. Reception quality is dependent on a number of factors, particularly the system demand. If the signal is bad, try later, preferably not in US peak hours. If you have a fast connection, you can listen to the music as background while you go about your other tasks, even surfing to other sites.

RADIOSPACE

http://www.radiospace.com/welcome.html

This is a reasonable resource for finding news and information on the activities of radio stations on the Internet.

SHORTWAVE RADIO CATALOGUE

http://itre.uncecs.edu/radio/

The best organised of the many shortwave listener/amateur radio sites. You can query the database and find out what's on at a particular time, and where and when you can pick up a county's broadcasts. There are logs, station ID clips, maps, news, satellite information, propagation, sunspot activity, spy stations and all sorts of data, including updates on experimental Internet transmissions.

Real Estate

WINDERMERE REAL ESTATE

http://windermere.com

Search for properties for sale in Washington, Oregon, Idaho and British Columbia or put your own on the market. There's also advice on how to beat the taxman, when to sell and various other tidbits to help you move your block.

WORLD REAL ESTATE LISTING SERVICE

http://interchange.idc.uvic.ca/wrels/index.html

A free service for buying and selling real estate in North America and Europe.

Reference

ARTFL PROJECT

http://tuna.uchicago.edu/ARTFL.html

This extraordinary exercise in extreme francophilia provides various French language and literary databases and utilities.

COMPUTING DICTIONARY

http://wombat.doc.ic.ac.uk/

In theory you can search here for a definition of any computing term or acronym. However, the language evolves all too often.

HOW TO SAY ORNERY

http://xmission.com/~jonyag/ornery.html

Indispensable pronunciation guide with audio coaching.

HUMAN LANGUAGES

http://www.willamette.edu/~tjones/Language-Page.html

An astoundingly rich digest of ▶

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What's on

links to linguistic resources such as dictionaries, thesauruses, poetry, publications and more in just about any language you can name, including Australian Aboriginal dialects, Esperanto, Hebrew, Manx Gaelic, Welsh and Vietnamese.

JEFFREY'S JAPANESE/ENGLISH DICTIONARY GATEWAY

http://www.cs.cmu.edu:8001/cgi-bin/j-e

There are plenty of options available in this English/Japanese dictionary, allowing you to search for translations of words and expressions either way. You can view text in English and Japanese characters. There are links provided to download browsers which support Japanese text, or you can download them as graphics. It will take a while to get started, but plenty of help is provided.

RASTA/PATOIS DICTIONARY

http://www.willamette.edu/~tjones/languages/rasta-lang.html

Rasta/Patois-to-English translations.

THE DEVIL'S DICTIONARY

http://www.vestnett.no/cgi-bin/devil

No, it's not an occult reference, but a list of cynical definitions begun as a satirical weekly newspaper in 1881. Many terms would have been offensive in their day but have now lost their venom. On the other hand, some would get you shot today, but were harmless then.

WEBSTERS

http://c.gp.cs.cmu.edu:5103/prog/webster

Stuck for a definition of a word? Well, here's an online version of the famous dictionary. Key in the word and the definition will be promptly returned – but you need to know how to spell it.

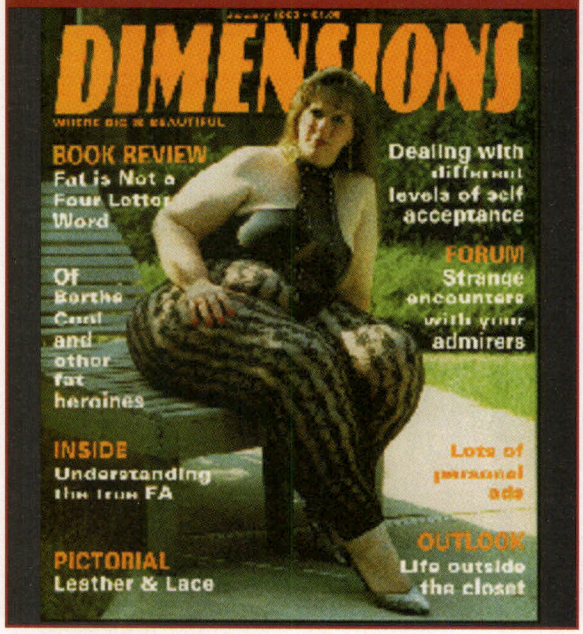
Religion

ABOUT WITCHCRAFT

http://www.crc.ricoh.com/~rowanf/COG/iabout.html

Definitions, basic philosophy, FAQs, general practices, holidays and other information from the Covenant of the Goddess (people who call themselves witches).

NEW



DIMENSIONS MAGAZINE

http://www.globalmark.com/globalmark/dim.html

The news on the street from this dedicated publication is that Kate Moss is out and Jo Brand is in.

ANGLICANS ONLINE!

http://infomatch.com/~haibeck/anglican.html

This page from the Anglican Church of Canada shows more concern for the modern relevance of Christianity than reinforcing the scriptures unchallenged. As such, you can follow concerns raised by Anglican youths and the responses of the clergy. There is debate about homosexuality and the role of women in church affairs, plus links to related resources such as the Pope's view of the role of computers in the church, Biblical contradictions and religious resources from all sorts of denominations.

CATHOLIC RESOURCES

http://www.cs.cmu.edu:8001/Web/People/spok/catholic.html

Scripture, liturgy, early writings, Vatican documents, papal encyclicals, pronouncements, books, links and other resources of interest to Catholics – and other people, too.

CONFESSION BOOTH

http://anther.learning.cs.cmu.edu/priest.html

No, that's not on the menu, but I'm sure they'll add it soon. As penance, eat a cold bucket of chips and then teach your parents how to debug machine code with Lou Reed's Metal Machine Music at full volume in the background.

GLOBAL JEWISH NETWORKING

http://www.huji.ac.il/WWW_JEWISHN/www/t01.html

Links to Jewish resources such as libraries, museums, conferences, FAQs, Usenet newsgroups, student groups, reading lists and Hebrew sofware support.

HOMOSEXUALS AND THE CHURCH

http://vector.casti.com/QRD/religion/

Pointers to documents about to the church's view of sexuality.

ISLAMIC RESOURCES

http://latif.com/

Gopher links to Islamic resources such as the Cyber Muslim guide, FAQs, guides to Islam, announcements, conferences and social events, Qu'ran teachings and news from the Arab world.

LUBAVITCH JEWS

Gopher: lubavitch.chabad.org

This is a Gopher site for information regarding Lubavitch Jews. Readings from the Torah, customs for barmitzvahs and articles on Lubavitch activism make this a good site for textual information on many aspects of Lubavitch life. There is even a guide to Jewish holidays.

NETWORK FOR JEWISH YOUTH

http://www.ort.org/anjy/anjy.htm

This network links up to the offices of the All Jewish Youth organisation in order to provide Jewish and Israeli educational resources.

RELIGIOUS AND MULTIFAITH SITES

http://www.crc.ricoh.com/~rowanf/religion.html

This page points to many religious pages, Gophers, resources and FAQs. These also include many pagan, magical and occult sources.

SNAKE OIL

http://fender.onramp.net/~analyst/snake/Snakeoil.html

A less than reverent guide to 'Kooky Kontemporary Kristian Kulture'.

THE BHAGVAD GITA

http://www.cc.gatech.edu/gvu/people/Phd/Rakesh.Mullick/gita/gita.html

Here you can view PostScript Sanskrit pages of the Bhagvad Gita, the most sacred of vedic literature. However if your Sanskrit is not up to scratch you may find the English summary and translation easier going.

THE BIBLE GATEWAY

http://www.calvin.edu/cgi-bin/bible

This lets you search the Bible as a database by textual references or by passage. You can also use it to turn scripture into hyperlinks in your own documents by referrring to the gateway in your HTML code.

Science

BEHAVIOUR ANALYSIS HOME PAGE

http://www.coedu.usf.edu/behavior/behavior.html

This page was produced by the University of South Florida and it supplies links to journals, mailing lists, FTP sites and academic addresses which are concerned with behaviour analysis and psychological studies. It's still under construction, though.

CHICAGO UNIVERSITY PHILOSOPHY

http://csmaclab-www.uchicago.edu/philosophyProject/philos.html

This is a forum set up to mediate the scholarly discussion of philosophical various works. You can join in and voice your own opinions on such vital subjects as Nelson Goodman's theory of metaphor, the language of thought hypothesis, counterfactuals and Kripke. It's all fairly basic and you should be able to bluff your way through with no trouble.

CICA PROJECTS

http://www.cica.indiana.edu/projects/index.html

These are details, images and results (in some cases) of projects undertaken at the Centre for Innovative Computer Applications. It's not limited to any particular scientific strain and there are experiments in linguistics, feminism, biology, geometry, fluid flow, geology, 3D, basketball, kinesiology and more. If you have an enquiring scientific mind, you'll surely find something fascinating here.

EARTHVIEW

http://www.ldeo.columbia.edu/EV/EarthViewHome.html

Find out where it's quaking in the USA or link to other seismological stations around the world.

JET PROPULSION LAB

http://www.jpl.nasa.gov/

If you are a budding astronaut with an interest in space travel you can get access to NASA press releases, flight information and pictures from this NASA maintained Web server. News stories may be obtained as they break by finger to nasanews@space.mit.edu

JOINT INSTITUTE OF NUCLEAR REASEARCH

http://www.jinr.dubna.su/

Interested in nuclear research proposals and progress? If so, maybe you can make sense out of this joint venture by Communist and former Communist states.

KNOWN NUCLEAR EXPLOSIONS

Gopher: wealaka.okgeosurvey1.gov/

Technical details, coordinates, results and other information compehensively recording the use and testing of nuclear devices. There's also access to earthquake catalogues and other seismological data.

MARINE GEOLOGY AND GEOPHYSICS

http://www.ngdc.noaa.gov/mgg/aboutmgg/wdcamgg.html

This site houses the World Data Centre for Marine Geology and Geophysics and is maintained by several US depatments with very long names. It's primarily responsible for all types of data from the seafloor, including both in-situ measurements such as seafloor cores, and remotely sensed data such as marine magnetics, gravity, seismic reflection/refraction and bathymetry. This includes fully searchable inventories, slide sets, posters, relief data and CD-Roms for download or ordering. MGG personnel are available to answer questions by email.

MYERS-BRIGGS TEST

http://sunsite.unc.edu/jembin/mb.pl

This eerily accurate personality test will confirm just what a beast you really are.

NATIONAL SCIENCE FOUNDATION

Gopher: nic.merit.edu:70 /1/.nsf-info

Historical statistics of traffic traversing the NSF Net, which are easily loadable into spreadsheet format.

PI

http://cad.ucla.edu/repository/useful/PI.txt

If you've ever wondered what Pi calculated to a zillion to the gillionth digits is, here's the answer.

ROBOTIC TELE-EXCAVATION

http://www.usc.edu/dept/raiders

Before you can climb into the cockpit of this interactive excavation robot, you'll need to pass a short quiz and, occasionally queue. Once aboard, you have full control and can zoom around a site littered with unknown objects. By aligning the camera and air blasting the terrain, you get to uncover things...

ROYAL OBSERVATORY, EDINBURGH

http://www.roe.ac.uk/

The main attraction for the layperson here is the superb collection of photographs from telescopes around the world. Detailed pictures of constellations and nebulae, usually the preserve of academics, are made publicly

NEW

HELL- THE ONLINE GUIDE

http://www.marshall.edu/~allen12/organ.html

Let's face it, this lot have never enjoyed good press. On the rare occasions they're taken seriously it's only to accuse them of some heinous crime against humanity, such as backmasking naughty slogans into heavy metal tracks, inciting suicide as a fashion statement and killing the Czar and his ministers. According to this site, Satanism is a bona fide religion whose followers do not worship the devil, but follow their Darwinian urges to disinherit the meek of their earth.

What's on

available. The home page claims it gets over 5,000 visits each week from over 30 countries. This superbly designed site should please professional and amateur astronomers alike.

SIAMESE FIGHTING FISH PROJECT

http://www.cica.indiana.edu/projects/Biology/index.html

In this project, animated videos of Siamese fighting fish were shown on a monitor next to a fish tank to test the behaviour of the real fish. You can download the images and animated movies, but at this stage results are not available.

SOUTH POLAR TIMES

http://www.deakin.edu.au/edu/MSEE/GENII/NSPT/NSPThomePage.html

This includes the bi-weekly newsletter of the Amundsen-Scott South Pole Station in the Antarctic as well as links to other gateways to the Antarctic.

SPACE CALENDAR

http://newproducts.jpl.nasa.gov/calendar/calendar.html

A guide to upcoming anniversaries, rocket launches, meteor showers, eclipses, asteroid and planet viewings, occultations and other space happenings in the intergalactic calendar. Many of the entries have links to pictures, pages and further information.

SPACE ENVIRONMENT LABORATORY

http://www.sel.bldrdoc.gov

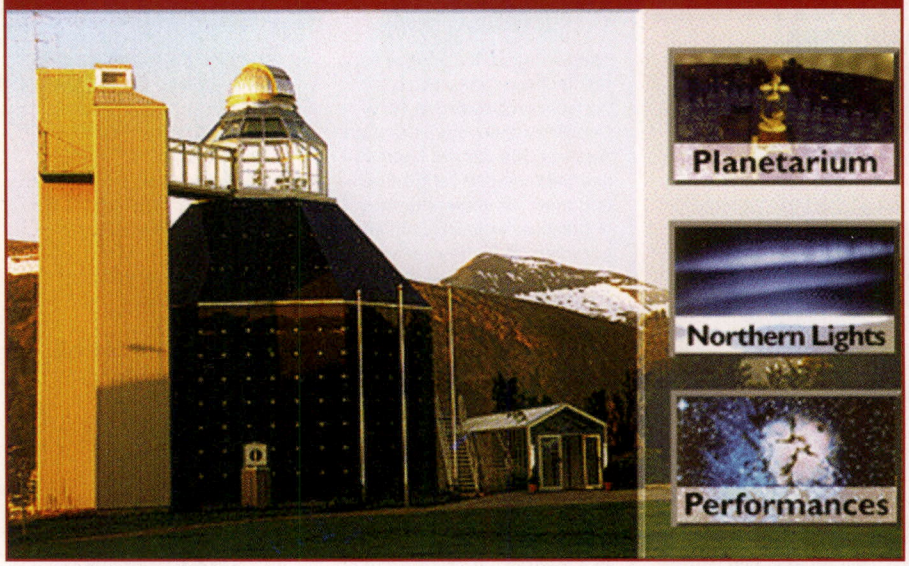
If you have been involved in long distance wireless communication or aviation, then you are probably aware of the effects of solar activity. Otherwise, you may be baffled by the significance of the research which is collected together on these pages. The Space Environment Agency provides current space weather, sunspot levels, solar images, research information and a brief explanation of its purpose that won't leave you too much wiser.

SPACE SYSTEMS LABORATORY

http://ssl.umd.edu

A brief overview of studies into the applications of telerobotics in space, carried out at the University of Maryland. Better still, use the link to NASA to get a more coherent and comprehensive presentation of the scope of these projects.

NEW



NORTHERN LIGHTS - AURORA BOREALIS

http://www.uit.no/npt/homepage-npt.en.html

If you're ever lucky enough to see the aurora borealis during a solar storm, you'll never be able to look skyward with the same nonchalance again. It will challenge your paradigm of the visible universe and it's relative stasis. This Norwegian planetarium does a commendable job in explaining a polar phenomenon that very few people understand.

STARS AND GALAXIES

http://www.eia.brad.ac.uk/btl/

This comprehensive multimedia guide has been taken from the CD-Rom Earth and Universe and provides audio, images and movies with an aim to demonstrating how stars behave, how their energy is generated and a clue about their origin and life cycle.

THE ENTOMOLOGY IMAGE GALLERY

http://www.public.iastate.edu/~entomology/ImageGallery.html

If lice, ticks and mosquitos turn you on, you'll leave this site feeling very aroused.

THE GEOMETRY CENTRE

http://www.geom.umn.edu/welcome.html

Located at the University of Minnesota, the Geometry Centre aims to develop, support and promote computational tools for visualising geometric structures in order to stimulate communication between mathematicians and the general public. There are forums, geometric software, pictures, workshops and other resources for advanced and novice mathematicians. This is also the focus site for experiments with WebOOGL, the format for distributing and linking 3D and higher objects across the Web.

THE MAGELLAN MISSION TO VENUS

http://newproducts.jpl.nasa.gov/magellan/

News releases and historical footage from the first planetary spacecraft launched from a space shuttle. There are enough images, animations and technical documents on Venus and the project itself to satisfy even the most ardent astrophile. However, don't bother if you're looking for evidence of extraterrestrial life forms. Apparently those photos are kept in a secret vault called the X files. The mission recently concluded with the craft resting in pieces on the surface of Venus.

THE SOLSTICE HOME PAGE

http://solstice.crest.org

This site lists Internet resources for those interested in alternative energy and sustainable IT. It includes discussions of such issues as non-motorised vehicles in Asia and a tour of photo-voltaic installations in Switzerland. It can also be accessed by Gopher at gopher.crest.org or anonymous FTP at solstice.crest.org

VOLCANO WORLD

http://volcano.und.nodak.edu/

Volcanic intelligence, images and educational material courtesy of NASA. There's no better place on the Web to monitor the latest eruptions, look at photos of every major volcano in the world, virtually tour an Hawaiian smokey or shop in a Volcano Mall.

WEB-ELEMENTS

http://www.cchem.berkeley.edu/Table/index.htm

An interactive periodic table allows you to click on an element and find out more about its properties. There is a link to a fairly useless element percentage calculator and an entirely useless isotope pattern calculator but the site as a whole might have some novelty value for educators.

Shopping

BURLINGTON COAT FACTORY

http://www.coat.com

Here we have an experimental service run by a US 'outerwear' retailer. "This is a work in progress and is subject to changes in focus" warns the home page. The service offers store location information, access to an illustrated catalogue of the merchandise and invites feedback.

CATALOG CENTRAL

http://catalog.florida.com

This publicity centre provides tourist information on Florida, as well as showcasing more than a dozen catalogues, which you can order online or by phone. However, the 'but wait, there's more'-style build-up is so familiar it's discouraging.

CDNOW! THE INTERNET MUSIC STORE

http://cdnow.com/

CDnow! is no half-hearted cybermall. It's an efficiently structured music megastore catering to a diverse range of tastes such as rap, exercise, march, new age, gay, holiday and rock. You can browse the associated track listings, biographies, reviews, press clippings and stories online or even buy the video and T-shirt. It takes international orders, which could work out even cheaper than buying locally.

COMPUTER EXPRESS

http://cexpress.com:2700/

This is an excellent directory of computer-related products from over 600 suppliers. You can size up the competition and vendors even agree to match any outside offer. This all adds up to a model for the future of marketing. To join, you must fax your credit card and delivery details in return for a membership number. At present, ISN won't deliver outside the US but it was recently taken over by the TV Home Shopping Channel, so watch out for synergies developing soon.

DOWNTOWN ANYWHERE

http://www.awa.com

A place where you can 'browse, learn, share and trade' or, more obtusely, it's a 'virtual salon for the marketplace of ideas'. This location's best selling point is its shopping opportunities. You can buy a range of books and equipment, or how about a WWW T-shirt, just $13.95 from the Downtown Anywhere Souvenir Shop? If you decide to buy, you can pay by credit card or open a DA account so you can't overspend your limit. It takes time to find your way around any new place but exploring the streets of DA is both fun and worthwhile.

ECCOSYS' E-SHOP PAGE

http://www.eccosys.com/E-SHOP/index.html

Asia's first ecash online shopping mall. At this stage, it's all experimental and the shops are bare. Keep watching.

EURODOLLAR

http://www.eurodollar.co.uk

At the present time, the only Web service available here is a rental office branch list and a EuroDollar charge card form, but the company has big plans for developing its Net connnections and promises to become a model example of a good commercial application.

GIFTS FOR DOG LOVERS

http://www.onramp.net/imagemaker

Forget the Doc Martin Megastore, this is shopping 1995! From the cute to the obsessively bizarre, email-order dog-embossed paraphernalia, including boxer shorts and lampshades. No breed too is obscure to feature here.

GLASS WINGS

http://www.aus.xanadu.com/GlassWings/welcome.html

A trial virtual shopping mall – it's sparse but shows promise. Polyester Records offers a large indie selection by email and you can order popcorn in flavours like Black Cherry and Honey Onion Mustard from Myers Popcorn. However, the site is primarily a showcase for Lee Perkins' games reviews.

INNOVATIONS

http://www.innovations.co.uk/giftpoint/

The UK Innovations catalogue specialises in unusual and innovative gadgets, probably designed more to sell than to use. They're not cheap, but then maybe not having to scour the streets for a clever present makes up for that.

INTERNET MEDIA GROUP

http://www.mailorder.com/

The Internet Media Group specialises in strategic Internet-based direct marketing solutions. It seems to be doing all the right things, like registering a much-coveted domain name and securing multiple high speed T1 and T3 routes to the Internet backbone. Shops on show include Sunday Comics, Paper Direct and Sonnai Frock's erotic prints.

INTERNET PRESENCE AND PUBLISHING

http://www.ip.net

A zany collection of online shopping services. You have to wend your way through a fair bit of claptrap to get anywhere interesting – they're going to learn not to do this soon. This is Herbal Care meets Macintosh software meets Beavis and Butthead. All the outlets have forms, but so far this is more a shop window than a shop.

LINUX IT CATALOGUE

http://www.fintronic.com/linux/catalog.html

This catalogue of low-cost Unix workstations contains a detailed products and options list, as well as advice on how to choose the system that best meets your needs and references to Linux's trade press coverage. The latest catalogue is available via finger at linux-sales@fintronic.com

MICRO MEDIA

http://www.micromedia.co.uk/

This neatly organised UK-based shopping mall offers speedy access to an Australian/UK employment service, computer dealers, financial services, retailers and various services.

MULTIMEDIA INK DESIGNS

http://mmink.cts.com/mmink/mm.html

Multimedia Ink Designs' home

NEW

INTERNET DISC SHOPPE

http://www.digimark.net/disc/

Why risk your fingernails in a rough sport like rugby or strain your back over a croquet stick when you can fling one of these blighters back and forth? They're totally foolproof and available where all good ice cream is sold.

What's on

page offers access to a series of small businesses selling goods from 'socially responsible' coffee to earrings. This virtual equivalent of the trendy Lakeshore Arcade appears to cater exclusively to US customers.

NETSURFER MARKETPLACE

http://www.netsurf.com/nsm/latest.mktplace.html

A new commercial online shopping mall with a wide variety of products on show. Results from its on-going reader survey are supplied, as well as advertising rates and style guides. There's not a lot here yet, but it's high quality, straightforward and diverse.

ONLINE YACHT BROKERAGE

http://beta.aladdin.co.uk/cpy/

You can scan through the list of yachts on offer, find something in your price range and then access a staggeringly detailed description complete with pictures of the craft. When you've narrowed it down to two or three you can email or phone to arrange a viewing. Theoretically, they can arrange delivery anywhere in the world.

OPEN MARKET

http://www.openmarket.com/

Sign up for your complimentary demo dollars to see how it's going to be done in the future. If you're searching for a particular product, an excellent commercial site searcher tells you where in the Web to go.

ROCKY MOUNTAIN CYBER MALL

http://www.hardiman.com/malls/rmcm/IndMerch/index.html

While there's a fair selection of produce on display, at reasonable and sometimes wholesale prices, the way this mall is presented makes it difficult to have much confidence in its integrity.

TAG ONLINE MALL

http://www.tagsys.com:80/index.html

This simple and friendly, commercial online shopping mall seems to be attracting new clients every day. It doesn't use any innovative ordering forms or fancy security procedures but it does put you in touch with vendors in the same way traditional media would.

THE NETMARKET COMPANY

http://www.netmarket.com

Unlike some of the brash and pushy shopping centres on the Internet, NetMarket has the 'shy-sell' feel of a charity Christmas gifts brochure. It prides itself on high quality at reasonable prices. Shops include Noteworthy Music (CDs), 800-The Rose (florist), Les Vignerons (wine), The Space Between (books on UFOs, lost worlds, secret societies etc) and Sovereign Records. You can buy online, however international P&P may cancel the bargain value. This was the first company on the Internet to support automatic public key encryption for credit card transactions.

THUNDERBIRD

http://www.cybermalls.com/cywharf/thunder/index.htm

Surely one of the Internet's prime powerboat shops.

UK INTERNET FLORIST

http://mkn.co.uk

Florists are becoming quite popular on the Web. This one's the first in the UK. You enter your credit card number, apology and delivery details into the provided form, whoosh them along the Internet and you're back in the good books before you get home.

USED SOFTWARE EXCHANGE

http://www.hyperion.com/usx/index.html

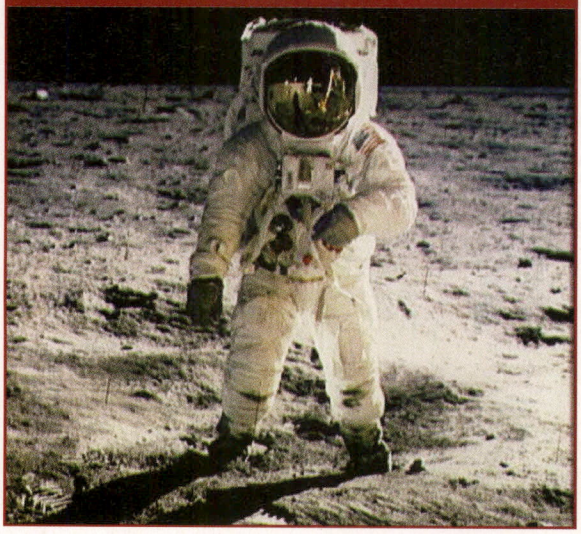
This international used software fleamarket is presently a free service. The database has several thoughtful filters enabling you to specify the software type, price, currency or platform. When you find something you want you can contact the vendor by email to arrange the trade.

VIRTUAL ADVERTISING

http://www.shore.net:/~adfx/top.html

At first glance, this anarchic-looking shambles of a home page may mislead you into thinking you've taken a detour on the way to the shops. However, although it's not signposted, there's a surprisingly large and interesting group underneath of advertisers peddling their wares. It's hard to believe it's a commercial service.

UPDATE



NASA INFORMATION SERVICES

http://www.nasa.gov/

This is the top level of NASA's mighty presence on the Web. You can get to all its projects and databases via the virtual map of the USA, plus statements on its policies, missions and discoveries, at this site. If you lived through the first moon missions in the late 60s, some of the images are sure to bring back vivid memories of mankind's greatest step. Check out the Kennedy Space Center for the latest on the shuttle or go to the headquarters in DC to find out its employees' foreign travel allowance loadings for an insight into both ends of the space glamour spectrum.

Sport

ABDOMINAL TRAINING

http://www.uq.oz.au/ab.html

Get 'abs like ravioli' – an excellent analysis of stomach shaping from that seat of learning Queensland University.

ALADDIN SAILING INDEX

http://www.aladdin.co.uk:80/sihe/

There are links here to a number of sailing pages, such as the Royal Yachting Association, Royal Ocean Racing Club, Royal Southampton Yacht Club, US Coast Guard, plus racing news. There are also plenty of individual home pages, product launches and Challenge promotions such as the Americas Cup.

AMERICA'S CUP

http://www.ac95.org:80//

This is an excellent source of race results, competitors' details, scores, commentaries and live coverage of the proceedings of the 1995 America's Cup, the world's richest sporting event. There's even a live cam to monitor the conditions in San Diego Bay.

AUSTRALIAN CRICKET

http://www.physics.su.oz.au/~mar/cricket.html

If you despair at the domination of American sports on the Internet, here is a wealth of pointers to cricket Gophers and information pages.

GOLF DATA ONLINE

http://www.gdol.com/

This service, at US$9.95 per month, supplies a database of golf information on over 14,000 golf courses in North America, including golf course maps and golf photos. There's pro golf schedules, golf tips, golf

publications, golf merchandise, golf real estate, golf travel, golf weather, golf, golf and more golf.

INTERNET SQUASH PLAYERS ASSOCIATION

http://www.ncl.ac.uk/~npb

International squash information includes rules, clubs, rankings, equipment, results, match reports, coaching, publications and a whole lot more.

LIVERPOOL FC

http://www.rpi.edu/~sathes/lfc.html

This site is a good example of one of the growing UK football club Web services – all of which seem to the work out of the UK's top educational establishments. The Liverpool pages include fixture lists, up-to-date match reports, honours histories, team and manager photographs... plus a collection of notable quotes from, as the Web service puts it, 'Scousers and non-Scousers' alike.

SKI WEB

http://www.sierra.net/SkiWeb

A regionally arranged international guide for skiers and once you've chosen your destination, what's on offer will differ but will usually include satellite photos, snow reports, accommodation and coming events. Many North American, Australian and New Zealand runs are covered but Europe, at this stage, is only represented by Slovenia and Slovakia.

SOCCER PAGES

http://www.atm.ch.cam.ac.uk/sports/webs.html

This is a collection of links to football pages. You'll be able to make your way to most of the English and many European, US, Brazilian and Japanese clubs. There are also connections to tables, fixtures, results and all sorts of fanatical football chatter.

SPORT VIRTUAL LIBRARY

http://www.atm.ch.cam.ac.uk/sports/sports.html

This is probably the most extensive set of links to sports information on the Internet. If you can play it, it's on here. Sports covered include American football, baseball, rugby (union and league), soccer, cricket, tennis, cycling, rowing, orienteering, windsurfing, skiing, rock climbing, scuba diving, car rallying and white water rafting.

THE 1998 WINTER OLYMPICS

http://www.linc.or.jp/Nagano/

The next Winter Games, at Nagano in Japan, are still three years away, but armed with your trusty Internet connection you'll be the first on your block with news on the events, venues, transport and Snowlets, the official mascots.

THE FEMALE BODYBUILDER PAGE

http://www.ama.caltech.edu/~mrm/body.html

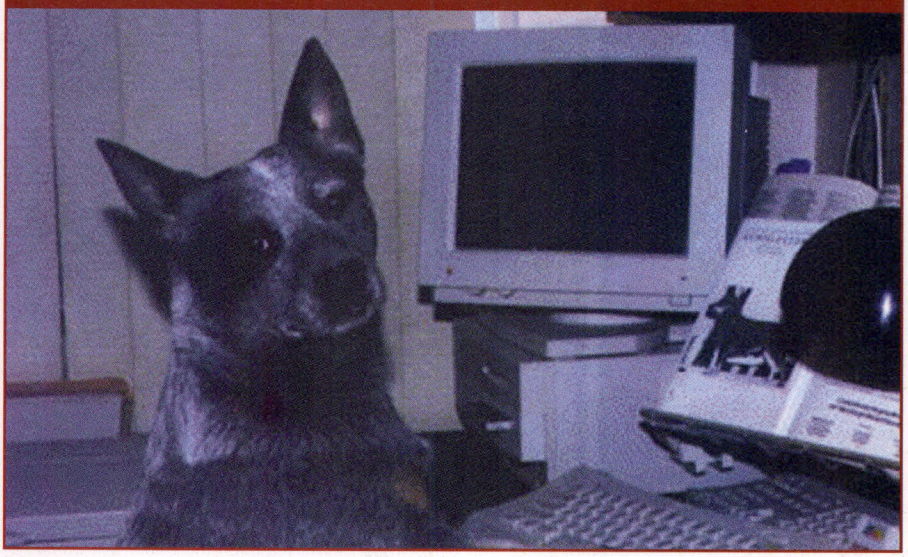
Plenty of proud pictures of the female form pushed to near-illogical extremes, as well as competition results, videos, fan mail addresses, workout advice and links to individual bodybuilder's pages.

WEIGHTLIFTING

http://www.cs.odu.edu/~ksw/weights.html

Links to fitness newsgroups, weightlifting FAQs, competitive lifting rules, workout advice and pictures of men displaying their physiques.

NEW



THE STOCKDOG SERVER

http://dauerdigs.biosci.missouri.edu/stockdog/stockdog.html

Here's a way to keep up with who's who in the (unfortunately US-only at this stage) stockdog trials. This is where the only two mammals with any mutual affection collaborate to corner a very stupid animal into an enclosure. It's then cut into disproportionate shares and eventually eaten. The ambush is appraised by the dominant species while the subordinates inspect each other's equipment. There are also some sturdy shots of startled sheep, if that's your scene.

Support

CHILD ADOPTION

http://www.gems.com:80/adoption/

This service provides a database with photgraphs and descriptions of children from all over the world who are seeking adoption. You'll have to make your own mind up whether or not this is exploitation but it is certainly disturbing.

MISSING KIDS DATABASE

http://www.gems.com/kids/ncmec.html

This site is an indispensible resource in the search for missing children but the interface seriously limits its usefulness. To find if a child is reported as missing you must first search by region and then scan through the names. To retrieve a picture of this child, you need to click on each name separately. This is fine if you have the real name, not an alias, but if you only have a face it's a laborious process. The list encouragingly includes children who have been found.

POW/MIA DATABASE

http://lcweb2.loc.gov/pow/powhome.htm

This database will assist research into the US Government documents pertaining to US Military personnel killed, missing or imprisoned in South East Asia around the time of the Vietnam conflict. There is also a similar database of the attempts to locate Americans thought to be held in the former Soviet Union.

SAMARITANS

Email: jo@samaritans.org

Use the Internet to email the Samaritans in the UK (also on samaritans@cix.compulink.co.uk or tel 0242 515777). The service follows a successful email test service run in the summer of 1994. For complete discretion, try the anonymous email server at samaritans@anon.penet.fi, although you may have to wait for a reply.

SILENT WITNESS

http://gn1.getnet.com:80/silent/

This service from Phoenix,

What's on

Arizona's police department gives details, often with photographs, of local crimes. If you have any information you can ring a toll free number to help solve the case and claim your reward. Even if you're not a local, you'll find this interesting as another innovative use of the Internet and as an indication of the level of crime in Arizona.

STOLEN CAR REPORT

http://kbt.kbt.com/locator/

Hopefully a useful service for locating and identifying stolen cars will spring from this site. There's not much on show yet, and there are no database browsing facilities, but these are early days yet.

VIETNAM VETERANS

http://grunt.space.swri.edu/index.htm

Lest we forget.

Telecomms

AT&T

http://youwill.com

This is where you find information about the products AT&T has on offer now and in mind for the future. It also provides a communications link for support.

AT&T'S 800 INFORMATION

http://harvest.cs.colorado.edu/brokers/800/query.html

This broker is part of the excellent Harvest WWW search index and was gathered from AT&T's 800 Web pages. This customised broker allows you to browse and search by category, business name and telephone number, and there's even support for misspellings.

FREE FAX SERVICE

http://linux1.balliol.ox.ac.uk/fax/faxsend.html

As with many Internet addresses, this fledgling service is growing rapidly and seems to have huge potential. Balliol College, Oxford, is the UK home page for what's billed as a free Internet fax server. After you have completed the online fax form, the recipient's name and address is converted to an email address and then routed to the nearest destination computer. This, in turn, restores the message back into fax format and transmits it through the local telephone network to the addressee's fax machine. There are a few of these sites around the Web, but at this stage they will only work if the destination has a local participator. Try it and see.

NTT

http://www.ntt.jp/

Japanese links and information make this an excellent resource from the Nippon Telegraph and Telephone Corporation in Tokyo. Apart from chapters of material on the services and research efforts of NTT, there's weather, national music, customs, clickable maps, working guides, tourist material, audio language lessons, Japanese site links, legal matters, sports, virtual libraries, news and much more. You can read in either English or Japanese.

PAGE MART - WIRELESS EMAIL

http://www.pic.net:80/pagemart/pagemart.html

This service sends your email messages straight to your pager, notebook computer or pocket organiser, anywhere in the US. Page Mart supplies a peripheral which plugs into your notebook's PCMCIA slot and downloads incoming mail.

VOCALTEC

http://vocaltec.com/

Vocaltech is the force behind the Internet Phone, the software package which allows you to use the IRC as a telephone service. It might sound a bit like two cans connected by a piece of string, but it can save you a bundle on international calls.

Time

28 HOUR DAY

http://www.kaplan.com/etc/bosh/28-hr.html

Living by a 28-hour day, six-day week regime has a number of benefits, according to Mike Biamonte. Fish finally get their wish to do away with Fridays.

CUCKOO'S CLOCK

http://www.galcit.caltech.edu/~ta/cgi-bin/cclock-ta

This one gives you the current time in California along with a suitable sound accompaniment – useful if you've got friends in Palo Alto.

GREENWICH MEAN TIME

http://www.yale.edu/cgi-bin/gmt-saytime.au

This is a great service, just enter this address and, depending on your configuration, within less than a minute you will hear the time played back to you through your speaker. Bit of a shame, it's never correct.

TIME ZONE CONVERTER

http://www.cilea.it/MBone/timezones.html

You can link to either of two time zone converters from this page. One is simple, you just click on the region to find the time there. The other allows you to convert from one time zone to another at any time and date, not just the current ones.

Transport

DEALERNET

http://www.dealernet.com

Would you buy a new car from these dealers? Unless you're in Washington State, you're not likely to get the chance, but that doesn't stop you from window shopping through the latest vehicles on sale stateside.

EUROPEAN RAILWAYS INFORMATION

http://mercurio.iet.unipi.it/home.html

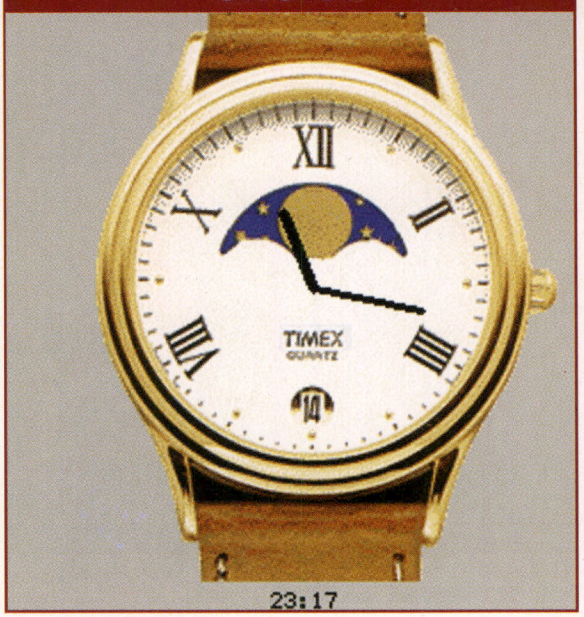
This site has the usual timetables, news, locomotive pictures and related links, but what makes it really special are the groovy liveries created by ardent train chasers. Some are faithful reproductions depicting national colour schemes while others are fantasy sketches conjuring up futuristic engines you'd almost swap your carrier bag collection for.

RAILROAD INTERNET RESOURCES

http://www-cse.ucsd.edu/users/bowdidge/railroad/rail-home.html

A banquet of goodies for trainspotters, rail fans and locophiles. There's maps, databases, mailing lists, transit information, links to and information on other sources of railway interest. A super place to hang out when you get home from Scouts.

CHOICE



TIMEX WORLD TIME

http://www.timeinc.com/vibe/vibeworld/worldmap.html

By clicking on a world map you can find the exact local time, represented graphically on a Timex watch. A very smart service and a wonderfully unobtrusive piece of product placement.

RAILSERVER

http://rzstud1.rz.uni-karlsruhe.de/~ule3/info-trn.html

Access to European detailed railroad information.

THE VIRTUAL RAILROAD

http://gpu.srv.ualberta.ca/~ybeaudoi/Virtual_Railroad/home.htm#menu

An exhilarating introduction for would-be ferrophiliacs to the glamorous pastime of train spotting.

Travel

AIR TRAVELER'S HANDBOOK

http://www.cis.ohio-state.edu/hypertext/faq/usenet/travel/air/handbook/top.html

This downloadable FAQ-style travel cookbook will help you beat the system.

CIA WORLD FACTBOOK

http://www.ic.gov/94fact/fb94toc/fb94toc.html

An encyclopaedic summary of every county's essential statistics and details. Disputed zones such as the Gaza Strip and the West Bank are treated as separate countries with their own data. It's not updated frequently enough, though, as neither of these regions' recently won independence is mentioned. The information provided includes geographical boundaries, international disputes, climate, geography, economic indicators, population demographics, government, communications and defence. This is excellent source material for school, travel or business trivia but not enough for a military takeover.

CITY.NET

http://www.city.net/

An excellent guide for browsing community and tourist data from around the globe.

ECHO STREET, SANTA CRUZ

http://www.echo.com/index.html

If you're in Santa Cruz the 'Geeks party and entertainment' guide might stave off boredom.

EDINBURGH

http://www.efr.hw.ac.uk/EDC/Edinburgh.html

Economic facts, figures, city and suburban maps, tour guides, history, famous inhabitants and photos of Edinburgh, the second most popular tourist destination in the UK.

GNN TRAVEL RESOURCE CENTRE

http://gnn.com/cgi-bin/imagemap/HOME?457,190

There are a few commercial sites featured here, including the conservative travel publishing giant Fodor's and Mountain Travel. Apart from that there are collections of traveller's tales, albums, book reviews and virtual travel guides from almost every country.

GRAND CANYON NATIONAL PARK

http://www.kbt.com/gc/gc_home

This private guide to the Grand Canyon is a work of great dedication and beauty. There are no half measures taken in providing trail and locator maps, track descriptions, history and advice on other local attractions.

INTERACTIVE MAP OF THE UK AND IRELAND

http://www.cs.ucl.ac.uk/misc/uk/intro.html

You'll probably find copies of this on quite a few sites around the UK, particularly the universities. There's no real limitation to the amount of regional data which can or could be retrieved by this sensible, friendly, point and click interface. There's news, weather, statistics, entertainment, broadcast listings, transport routes and travel times, interactive rail and city maps, guided tours, Web servers and more. It can only grow from here, maybe with your help.

IRISH NATIONAL ARCHIVES

http://www.hea.ie/

Irish news, a dating service, free research information service and international and Irish active maps.

JOURNEY TO THE NORTH POLE

http://www.freenet.ufl.edu/~skydive/np.html

Ever had the urge to leap out of an aeroplane above the North Pole? Here's a pictorial travelogue showing how to do it.

LAS VEGAS ONLINE

http://www.infi.net/vegas/online

This tourist service by local CBS affiliate KLAS-TV includes a live online version of their news, weather and sports service. There's business information, shopping, maps, hotel guides and the like, but the virtual tour of Las Vegas is the showpiece. The guide to gaming might be handy, but you can't access the tables online.

LONELY PLANET GUIDEBOOKS

http://www.ozonline.com.au/lp/index.html

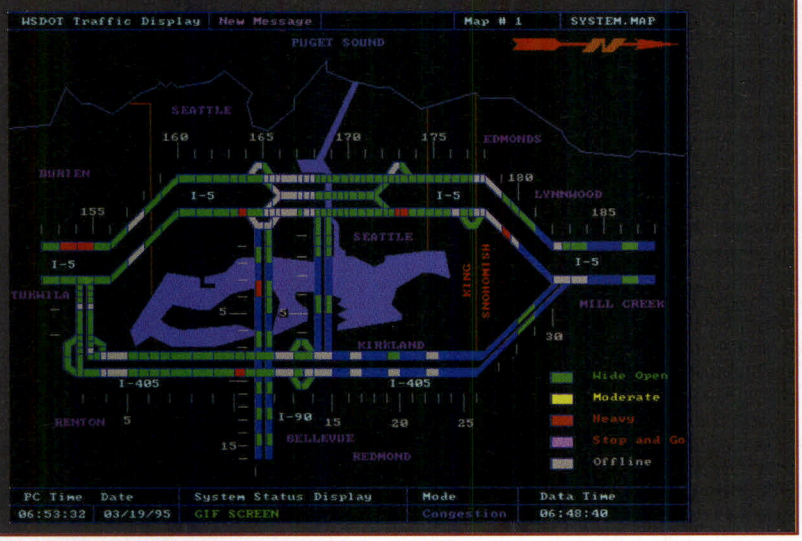
Despite being the world's largest travel publisher, the information at the Lonely Planet site is far too brief. There's a titles list and an outdated nugatory collection of travellers' tales but, in short, it's a major disappointment.

MAKE A MAP

http://ellesmere.ccm.emr.ca/wnaismap/naismap.html

Interactive resources on the Net don't come any better than this DIY Canadian map builder. You can specify all sorts of multiple constraints, layers and relief projections, like political

NEW



SEATTLE MET TRAFFIC FLOW

http://198.238.212.10/regions/northwest/NWFLOW/

To check on traffic in downtown Seattle, just chime in to receive five-minute updates from the roadway traffic sensors. If this local government service proves too popular, maybe it will become overloaded with traffic itself.

boundaries, geological provinces and even the grizzly bear range.

MAP BROWSER

http://pubweb.parc.xerox.com:80/

Xerox PARC (Palo Alto Research Center) brought the world GUIs (Graphical User Interfaces) and Ethernet. Its public Web site provides, among other things, a graphical world-wide map browser. You can obatin maps showing rivers, borders, and other information, by specifying a location on the globe.

MAPGATE AT DELORME MAPPING

http://www.delorme.com/

Delorme Mapping based in Freeport, Maine, specialises in mapping software, databases and atlases. This site features its online product catalogue, map demonstrations, technical support and employment opportunities within the firm. Products available include paper maps, global positioning systems, computer mapping products and a CD-Rom-based street map of the entire USA.

MCW INTERNATIONAL TRAVELERS CLINIC

http://www.intmed.mcw.edu/ITC/Health.html

There is token information here on the most prevalent diseases travellers are likely to encounter, symptoms and possible cures. However, with a little more effort this could be a great deal more useful. It gives little in the way of zonal advice, drug contra-indications or outbreak alerts and there's not even mention of dysentery.

OULU, FINLAND

http://www.ouka.fi/cityinfo_e.html

Sunny Oulu, northern Finland's largest city with a population of just over 100,000, falls somewhat short of a trading metropolis. But, the hotel, local government, enterprise, and municipal information provided here may interest the potential business traveller. No need to bring your own snow.

PARIS

http://meteora.ucsd.edu:80/~norman/paris/

Thinking of a trip to Paris? This one provides a virtual tour in English of popular museums, cafés, monuments, shops, rail systems, educational institutions and many other attractions. Or if you really want to punish yourself there's also a version in French. You can do it all through interactive maps or speed things up with text only.

NEW

BOSNIA

http://www.cco.caltech.edu/~ayhan/bosnia.html

The information, pictures and maps provided here give an impression of the conflict in former Yugoslavia from a Bosnia-Herzagovinan angle. Unsurprisingly, the list of war criminals and suspects are all Serbian, but if you pursue the provided links elsewhere, you'll get a more balanced view.

PCTRAVEL

Telnet://pctravel.com

The first publicly available free airline reservation and ticketing service – you can access the Apollo Reservation System to book from a choice of over 500 airlines and, once booked, your ticket can be Fedexed to you from the US. Feedback on this service please.

SCOTTISH HIGHLANDS AND ISLANDS SERVER

http://nsa.bt.co.uk/nsa.html

Compiled by staff at some BT outpost who presumably have little else to do, this promo for the Highlands and Islands initially seems rather arcane. There are sections on leisure and culture, sporting activities and the Gaelic language, but the pages about business activity and distance working in the region are actually very interesting. In fact, there's a lot of good information here and the pictures and graphics, although they take about as long as the boat trip to the mainland to load, are high quality.

SEE THE WORLD ON A TRAVEL AGENT'S BUDGET

http://international.com/III/nct.html

This scheme allows you to act as a travel agent, receiving discounted fares and tax perks. You can earn commission if you introduce friends and then they too can enjoy identical benefits. Sounds familiar? What's the catch? Oh, it does have a small registration fee.

STUDENT TRAVEL

http://www.istc.org

Find out where to get an international student identity card and where you can use it. Other information, like travellers' tales, is promised in the future.

THE JERUSALEM MOSAIC

http://www1.huji.ac.il/jeru/jerusalem.html

This pretty but slow site offers a virtual tour through the old city of Jerusalem, including maps, views and paintings. There's historical data, travel details and links to other Hebrew university information servers via a sensitive map of Israel.

THE VIRTUAL TOURIST

http://wings.buffalo.edu/world/

Click on the atlas interface to zoom into the region of your choice. Once you're down to country level, you can choose between a resource map, resource list or general country information.

TRAVELS WITH SAMANTHA

http://martigny.ai.mit.edu/samantha/travels-with-samantha.html

One of the winners in the Best of Web 1994 awards, mainly due to the 250 quality photographs of wildlife and young women, rather than Philip Greenspun's North American travel writing.

US TRAVEL WARNINGS

http://www.stolaf.edu/network/travel-advisories.html

This provides essential information if you're planning to

visit a potential hot spot, but it's not a definitive guide to safety. Potential war zones tend to bubble for years before they attract foriegn media and consular attention, usually after an insurgent group takes responsibility for killing tourists, but after it's died down they may not bother to retract this warning. In other words, don't ignore these bulletins, but seek other advice before postponing your adventure.

WORLD'S LARGEST SUBWAY MAP

http://metro.jussieu.fr:10001/

Pick from a selection of major cities, choose a starting and finishing destination and the algorithm will estimate the travelling time. A fun idea but a joke in practice, due to assumptions such as immediate connections and homogenous flow. "What about signal failure?" I hear you ask. Regrettably, this is one of those sites that's often ignorantly used as an example of the vital information jet-setters can currently glean from the Internet.

Universities

BRADFORD UNIVERSITY

http://www.brad.ac.uk

A nicely produced Web service which includes pictures of and information on Bradford, plus personal home pages, which are always a good source of links to unexpected places.

CAMBRIDGE UNIVERSITY

http://www.cam.ac.uk

Cambridge has the UK's highest Internet usage, both in and around the university and this is the home page for the main university server. Through a Gopher menu, there's probably the UK's most comprehensive collection of local information, from railway timetables and bus services to lists of chemists, dentists, music venues, and much, much more. Alas, no personal home pages yet.

DTB INFORMATION

http://www.dtb.dk

The Technical University of Denmark's home page is still under heavy construction. There's the usual University information – maps, phone books, news, transport, associations and sports – as well as Danish TV and radio listings. It's all well laid out, mostly in English, and worth keeping an eye on.

LIBERTY

Telnet: liberty.uc.wlu.edu

The Liberty server at Washington and Lee University in Virginia provides a Telnet Gopher service which is an excellent starting point.

MIT

http://www.mit.edu

A great university Web server, this includes a large number of student and staff home pages with links to the complete gamut of Internet activity. One quick way to see into the outer reaches of the Internet is via the MIT students' home pages.

SHEFFIELD UNIVERSITY

http://www2.shef.ac.uk

Sheffield is running two main servers, one at this address and another you can link to from here. This other server will eventually be wound down to a Macintosh-orientated site, but still handles most international traffic today. Until the University sorts itself out, you may need to browse back and forth. However, do check out the 'Big Dummy's Guide' for a great online compendium of Internet advice.

SIGWEB UK & I

http://www.qub.ac.uk/sigweb/index.html

This service has been set up to foster relationships between researchers and developers in British and Irish colleges.

WARWICK UNIVERSITY

http://www.warwick.ac.uk/

You'll find information about the university's activities, including limited staff and course details.

Weather

INTERACTIVE WEATHER BROWSER

http://rs560.cl.msu.edu/weather/interactive.html

Interactive temperature map of the USA giving detailed hourly updated weather reports.

NATIONAL SEVERE STORMS LABORATORY

http://www.nssl.uoknor.edu/

If tornadoes, blizzards, flash floods, thunderstorms, hurricanes, cyclones, lightning and severe storms are just your bag, then step in here. These guys are not put off by a bit of drizzle spoiling their cricket, they're out whipping up lightning rods on mountain peaks trying to attract the big stuff. If you're a thunder buff, you should read the advice on responsible storm chasing – it may just temper that Pavlovian frenzy for the car keys when the next distant rumble snaps you from your post-prandial stupor.

THE DAILY PLANET

http://www.atmos.uiuc.edu/

This server at the University of Illinois' Department of Atmospheric Sciences, has meteorological maps, satellite images, pointers to sources of climactic data and 'instructional modules'. Although aimed at the serious sky watcher, this is also a good place to pick up titbits to toss into general weather chat. This site also has one of the best designed contents page graphics on the Net.

WEATHER

http://www.cs.ucl.ac.uk/misc/weather/weather.html

Digitised satellite pictures to warn you of the impending downpour.

WEATHER FORECASTS FOR THE US

Gopher: wx.atmos.uiuc.edu/11/States

This Gopher service gives current weather forcasts and historical statistics on US regions. It's simple to select from the menu, which is broken down by state and then by city centre or district.

WEATHER INFORMATION

http://web.nexor.co.uk/users/jpo/weather/weather.html

Regularly updated weather, infra-red and visible light

NEW

```
22 Mar 1995, 1830:
Air: -0.3C, 55.3%, 991.2 mbar
Win: light breeze (svak bris) from south southwest
     2.9 m/s (gusts 4.0 m/s) from 237.1
Sun: 0.3 W/m2 (dark)
Rad: 1.2 CPM (low)
```

WEATHER

http://www.cs.uit.no/~ken/images/big/weather.gif

You might think that Tromso is some tiny frost bitten village 600 miles north of Whoop Whoop, where drunken Vikings bash each other into a stupor nightly, to a background of heavy metal music echoing through the fjords, before falling asleep to the sound of driving snow. You might be right.

What's on

satellite images from all over the world, particularly Europe.

Weird!

AUTOGRAPHS

http://www.sofcom.com.au/Autographs/index.html

Be the envy of your friends – available for a limited time only – send no money, we'll bill you.

BODY PIERCING

http://indyunix.iupui.edu/~dlbewley/body-p/body-p.html

FAQs, links, diagrams, pictures, e-zines and warnings.

BURN THIS FLAG LOWLY

http://www.rahul.net/btf/

These abrasive, un-PC pages of *Crank* magazine may offend.

CARCASS' LYRICS

http://vivarin.pc.cc.cmu.edu/cgi-bin/lyr.groups?carcass

UK thrash band Carcass' extreme lyrics read like the ramblings of some psycho-killer. Their music may even be palindromic, it's hard to tell.

CODPIECE INTERNATIONAL

http://www.teleport.com/~codpiece/

This site houses a campaign to revive the codpiece, presenting its case in a cute Pythonesque style that may amuse some. It's all lipservice though, as there are neither codpieces for sale here nor sincere intentions. What's the point of that? Oh, to sell sloganed T-shirts, bumper stickers, aprons and boxer shirts, of course.

DAN'S GALLERY OF THE GROTESQUE

http://thelair.zynet.com:80/~grotesk/

Dan's a med student who's going out of his way to display the most bizarre, tasteless and repulsive photograph gallery on the Internet. He succeeds with exhibits like the Foyer of Forensics, Neonatal Nightmares and Children Shouldn't Play with Dead Things, which are teeming with photographs of bodies decomposing, medical oddities and police forensics. Eat first.

DISASTER O' THE DAY

http://www.ora.com:8080/cgi-bin/crash-cal

Enter your birthdate and discover its effect on the world.

EXPLODING HEADS

http://www.mit.edu:8001/people/mkgray/head-explode.html

Worried that your head may explode? These tips will help you identify early symptoms.

FELINE REACTIONS TO BEARDED MEN

http://web.mit.edu/afs/athen/org/i/improb/www/cat.html

Bad news for the hirsute.

HYPERCORDIA

http://vaxa.stevens-tech.edu:8000/jofo/hyperdiscordia.htm

Possibly the most mentally unhinged site in cyberspace – it defies reviewing except perhaps with a single word.

KURT – A TASTELESS MOVIE

http://www.pencom.com/subdirs/tb/kurt.txt

See Kurt Cobain's last moments, tastelessly depicted in ASCII.

MRS SILK'S CROSS DRESSING MAGAZINE

http://www.cityscape.co.uk/users/av73/

Mrs Silk can furnish you with a variety of products to ensure that when you do step out of the closet, it's with style.

ONLINE TOILET

http://wps.com/toilet/index.html

Coprophiliacs, potty heads, fraque freaks and porcelain spotters will revel in this virtual toilet. During breaks between screen refreshes you can link up to the WPS home page for more anarchy.

PIGEON KICKING

http://info.pitt.edu/~katst12/kick.html

Unlikely to get into the RSPCA's good books.

PING DATASCAPE

http://www.artcom.de/ping/mapper

If you can decipher the techno-art rhetoric here, you'll be able to add your own address to the real-time 3D flight through this Internet datascape, brought to you by German international TV station Deutsche Welle.

RANJIT'S LUNCH

http://oz.sas.upenn.edu/miscellany/lunch.html

A fascinating itemisation of Ranjit Bhatnager's diet with links to Sho Kuwamoto's, Ben Cox's and other crucial lunch servers.

RECTAL FOREIGN BODIES

http://www.well.com/www/cynsa/newbutt.html

Highlights from Surgery Magazine, complete with X-rays, confirming the danger of having too much fun in the privacy of your own home.

SPATULA CITY

http://www.wam.umd.edu/~twoflowr/index.html

If you're a fan of 3D rendering, you'll probably overlook the inanity of the gags hidden in this collection of pointedly and pointlessly odd pages.

STEPS IN OVERCOMING URGES

http://vector.casti.com/QRD/religion/mormon-masturbation

Having trouble leaving it alone? You'll find timely advice here.

STRAW POPTART FLAME THROWER

http://cbi.tamucc.edu/~pmichaud/toast/

This ground-breaking experiment turns an innocent kitchen appliance into a deadly incendiary device but correct laboratory procedures are strictly adhered to.

VOMITUS MAXIMUS MUSEUM

http://www.vomitus.com/vomitus/

These surreal macabre images and twisted story captions created by RS Connett are as perverse, grotesque and disturbing as anything you can find on the Web.

NEW

ORGAN EVERSION INTRODUCTION

http://cspmserver.gold.ac.uk/tongues/textintro.html

Some sites are obviously odd for the sake of being strange, others because they know no better, and then there's this type, which makes you wonder whether you are the audience for an indecipherable in-joke or a serious perversion.

A first in event marketing – the conference you CAN afford to miss

COMMUNICATIONS INTERNATIONAL VIRTUAL CONFERENCES.

In 1995, we are running a series of Virtual Conferences through the magazine and on the Internet. The first Virtual Conference, Networked Multimedia, will commence in April 1995.

WHAT IS A VIRTUAL CONFERENCE?

We've not only cut out the hype, we've cut out the hassle. This is the conference you can join without having to go anywhere – if you can't make it on Monday, you can come on Tuesday... or the week after.

The idea is very simple: Instead of dragging delegates hundreds, or even thousands, of miles to a hotel, we'll drag the conference material itself onto the Internet where it can be downloaded or browsed by delegates at will. Anyone with full Internet access can become an on-line conference delegate.

Best of all it's an application of the subject matter. Yes, radical though it may seem, we're going to hold a high tech conference using high tech.

When you want it....and how you want it.

Not everyone has Internet access. A précis of each paper to be presented at the conference will appear in issues of *Communications International*. Readers will be able to create their own tailor-made agenda by choosing a selection of papers which meet their interests. For a small handling charge we'll print out the papers selected and mail them.

Any Questions?

We haven't forgotten about these, either.

Delegates will be able to put questions to authors, just as they would at a real conference.

THE VIRTUAL CONFERENCE IS NOT JUST TIMELY, EASY TO USE AND INEXPENSIVE - IT'S ALSO IN-DEPTH. AS OUR READERS, YOU NEED INFORMATION THAT'S SPECIFIC TO THE TECHNOLOGIES YOU DEPLOY. A CONVENTIONAL CONFERENCE, NO MATTER HOW LOFTY THE SPEAKERS, IS SIMPLY NOT ABLE TO DELIVER ON SUBSTANCE.

But we don't need to sell to you.. we're not even going to charge you. Networked Multimedia: the Interactive future, convenes in April 1995.

If you're an Internet User - try it and see.

We'll be publishing the World Wide Web address in our April issue. If you don't have Internet access, the April issue of CI will feature synopses of all the papers so far available and you can choose which papers you'd like us to send you.

Join The Conference at www.emap.co.uk/vc/

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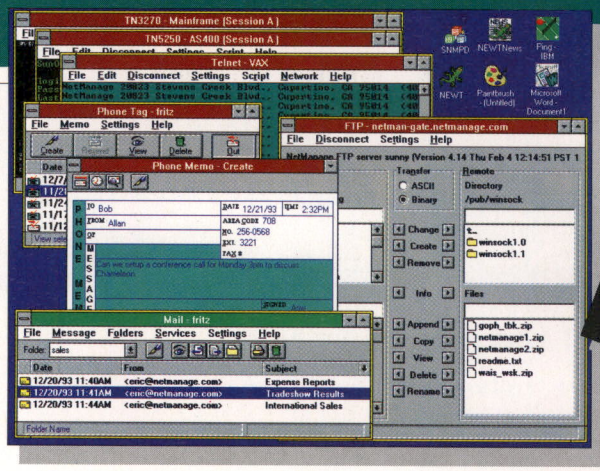
TCP/IP Applications for Windows



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Developer Tools:
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Inside Usenet

What it is, how it ticks, where it's at and when to join in. Find what you want without getting your fingers burnt

SO, WHAT IS USENET?

Usenet is a collection of online forums, called newsgroups, each with a single theme such as football, cooking or the intricacies of network transfer protocols. Each newsgroup contains postings from people of varying expertise, requesting or providing information in that specific subject. Making a new announcement or query starts what's known as a 'thread', ie a new line of discussion on a specific topic. Replies to the initial posting get added to the thread. Your Usenet reader should bundle threads together so you can follow the progress of the discussion.

I WANT IT, I WANT IT, HOW DO I GET IT?

Unlike the World Wide Web, Usenet does not require full Internet access. If you only want email and newsgroup access just ask for a UUCP (Unix-to-Unix CoPy) connection. Many bulletin boards and Internet shell account providers can supply access to at least a limited number of newsgroups. Even a full access provider may not supply all the groups for logistic reasons or due to a company policy to exclude certain types. While many groups are genuinely educational, businesslike or informative, there are just as many with adult, pornographic, political, provocative or just plain boneheaded material. It's not surprising that many government, educational, corporate and conservative bodies want to filter them.

WHAT SORT OF GEAR DO I NEED?

To access Usenet, you'll need a computer, a modem, a connection to the Internet and a newsreader. There are several shareware newsreaders for every computing platform. Your access provider should be able to provide you with one when you first make a connection. Try a few different applications until you find one you feel comfortable with. Netscape lets you seamlessly zip from the Web to newsgroups and back, and is satisfactory. However, dedicated packages can add some useful features such as sorting and filtering.

WHO'S IN CHARGE?

The Usenet is a package of files passed around the global network. Whoever passes it on is free to add new postings and whoever's downstream gets what's passed on. Some newsgroups are 'moderated', which means that postings are screened before they appear. Over-moderation, however, can lead to heavy dissent from users. What you see and when you get it depends on who's upstream of your provider and how often it updates the postings. It's usual for providers to delete postings older than about four days and sooner for bigger files like binaries. Due to the pass-the-ball nature of Usenet transmission, your postings may appear immediately on your screen but will take some time to propagate around the world. It's up to you to open discussions, reply to queries, and to help newbies with poor netiquette.

WHAT THE FAQ IS NETIQUETTE?

It's considered bad netiquette to dive blind into a newsgroup and post a query or state an opinion which has been covered in a FAQ or is inappropriate to that group. If you try you might be ignored, flamed, told to go elsewhere or to read the FAQ. Every newsgroup has a few FAQs to answer common questions and give guidelines for posting to the group. It's wise to read these first and then 'lurk' for a while until you feel you have something to add. If you do get flamed and defend yourself by flaming back, you could start a flame war. Once this happens you're likely to be directed somewhere like alt.flame to continue. A comprehensive list of FAQs can be found on the World Wide Web at http://www.cis.ohio-state.edu/hypertext/faq/usenet/FAQ-List.html

WHAT'S ALT., COMP. AND REC.?

Every newsgroup has a simple address which should tell you what it's about at first glance. The first part classes it in a very general category. The most popular of these are alt. (alternative), bit. (Bitnet), biz. (business), comp. (computer), misc. (miscellaneous), news. (new users), rec. (recreation), sci. (science), soc. (social issues) and talk. (debating). Many localities have their own specific groups, such as aus. (Australia), de. (Germany) la. (Los Angeles) and uk. (UK). Each category breaks down further into subgroups – for example rec.sport.cricket.info. This will contain information on the recreational sport of cricket.

WHERE'S THE BEEF?

Several groups may discuss similar subjects but each will have its own very particular identity. For example, alt.games.beef may be light and anarchic but biz.marketing.beef would get down to business. Think laterally and use your newsreader's filtering capabilities to search through the Usenet lists for key words.

WHEN'S MY TURN?

Posting is like sending email from your newsreader. You can start a new thread, follow up an existing one or respond privately by email. Exactly when you do it is entirely up to you.

HOW CAN I REMAIN ANONYMOUS?

To post under an alias, use an anonymous server. Look at any of the dodgy groups such as the alt.sex series for more details or email a blank message to help@anon.penet.fi

HOW DO I START ALT.ME.ME.ME?

Creating a new group is not as easy as publishing a Web page. You have to run the proposal past the pedantic news.groups newsgroup where it will be grilled by the hordes. Lurk for a few months first to get an idea of how to play the game. Don't expect any help – it's not a friendly group, but it's one you will have to win over to stand any chance of getting your way.

NEWSGROUPS AT A GLANCE

Cross posting
Sending the same message to multiple newsgroups simultaneously.

FAQ
FAQs (Frequently Asked Questions) are documents scattered around the Internet. Each one answers the most common questions on a specific subject. Nearly every newsgroup has a FAQ – it's good netiquette to look or ask for the relevant FAQ before grilling the gurus.

Flame
Ignore the rules of Netiquette and you will more than likely get flamed, ie receive abusive mail or postings.

Flame war
War breaks out when flaming happens openly as part of a newsgroup thread.

Lurking
Reading Usenet newsgroups without posting responses.

Netiquette
The appropriate way to address and interact with other Internet users.

Moderated
Postings to a moderated group will pass before a guru to make sure that they're in the spirit of the group's charter and will add a worthy perspective to the group.

Newbie
A new user.

Post
You send or post a message to appear in a newsgroup.

Smiley
Smilies and other 'emoticons' can help convey your feelings, ie :-) (look side on).

Spam
Cross-posting to many different newsgroups, or spamming, is frowned upon within the Internet as it wastes bandwidth and clogs up inappropriate groups.

Thread
Once a new subject has been started within a newsgroup, and then replied to by other users, this then becomes an on-going conversation. This list of progessive postings is known as a thread.

Inside Usenet

What exactly do they talk about? John Elliott drops in and follows the threads in eight very different newsgroups

ALT.COMPUTER. CONSULTANTS

This group's aim is to provide a friendly place for computer consultants to exchange information. The problem is that not many people have realised this, so it's plagued with posts it doesn't really want. The most common example of this is people asking for help on all manner of subjects, from networking and programming to hardware.

I suppose it's a fair assumption that a newsgroup with the title alt.computer.consultants will have the necessary readership to answer any computing problem, but these queries should be posted to the newsgroup specifically designed for them. This is where computer consultants go on their day off, so you can imagine that the consultants get a little fed up of constant requests for free advice and the flaming index is pretty high – they're not abusive but can be pretty terse.

The main thrust of the group is consultants asking other consultants' advice about client relationships, how much to charge, and soliciting co-operation on major projects. The group is very US-oriented and traffic concerning filling out IRS forms is high.

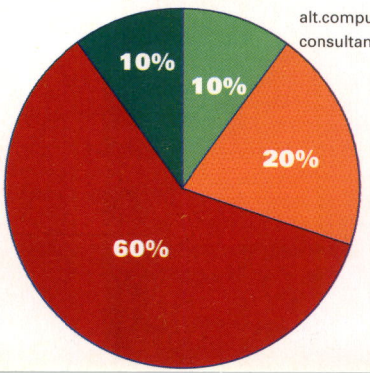
For both the full and part-time consultants based in the UK, the group's worth following as the discussions on how to deal with problematic clients can give useful insights.

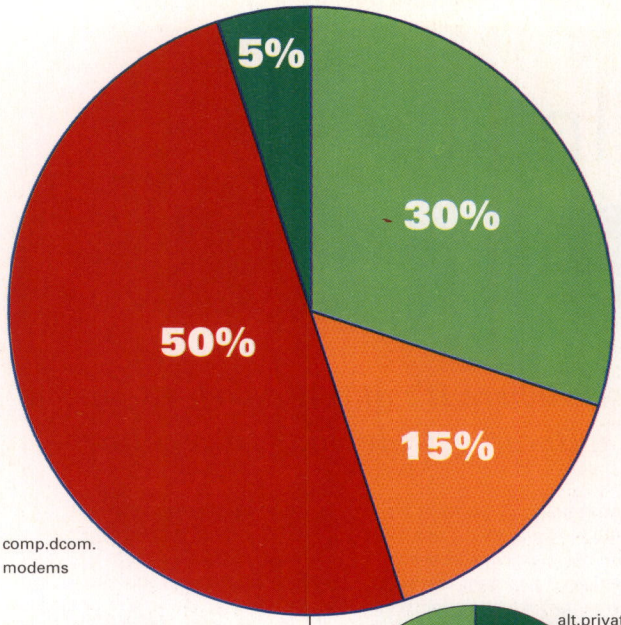
Average messages per day: 40

2 Flaming

5 Predictability

6 Friendliness





comp.dcom.
modems

COMP.DCOM.MODEMS

I suppose for a community that is, in the main, connected by modems, the high traffic levels in this group are predictable. However, the obvious Catch 22 is that you need to get your modem working before you can post to the group asking how to get your modem working!

On the whole, the atmosphere of the group is similar to that in technical newsgroups and there are many involved threads with people genuinely giving help to each other. Many of the major modem manufacturers certainly monitor the group and some questions are often answered directly by their support teams.

Most of the discussion at the moment is concerned with getting the new V.34 or V.fast modems working at 28.8k, and what you need on your host computer to take advantage of these speeds.

This group makes wonderful reading for anyone who dials into the Net, as even if you're a complete novice when it comes to those mythical AT commands, by reading this group for a number of weeks you'll start to learn how to optimise your modem's performance by seeing what other users have tried.

If you no longer classify yourself as a newbie and want to start getting more out of your connection, or if you're thinking of upgrading your modem, then I can't recommend lurking in this group enough.

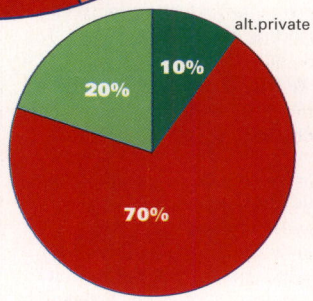
However, if you're using an offline newsreader then you should be prepared for the high traffic levels.

Average messages per day: 100

2 Flaming

2 Predictability

8 Friendliness



ALT.PRIVACY

On the outer edge of the Internet, this group considers not only the implications of anonymity on the Net but in all aspects of human life.

Depending on your disposition to the 'state' and your view of government regulation as 'conspiracy', you'll either find it amusing, informative or deeply unsettling – I wouldn't recommend it to the paranoid unless they're in the hands of a good therapist. Postings mainly emanate from North America and often consider the effects of proposed legislation in both the US and Canada.

Some posters seem determined to be untraceable and there is debate about problems such as conducting all your business from a PO box, but the points made are serious enough: too many organisations ask for too much information and by giving out your address and telephone number when they're not really required, it's more likely all those big computers will talk to each other and discuss you.

This is one of the good newsgroups to watch if you're interested in helping to protect the Net from interference, as any proposed actions are always predicted, highlighted and discussed here.

Average messages per day: 22

1 Flaming

0 Predictability

8 Friendliness

COMP.SYS.MAC. HARDWARE

Another good example of what the comp series of groups should be, comp.sys.mac.hardware covers not just the Macintosh itself but all types of related add-ons and peripherals.

Most of the postings consist of users' problems and just about all of them get very friendly and helpful answers. There's the usual degree of Mac advocacy and two very long threads of over a hundred messages each which I read were titled 'Mac v PC comparison: resolved forever' and 'Bill Gates threatens Apple'.

The technical posts are nearly always from experience, which is valuable when you're trying to get things working. There are many questions along the lines of 'I'm thinking of buying...what do people think?' which nearly always elicit informed advice.

The group covers all types of Macintosh platforms, from the venerable Mac II right through to the new Power Macs, and there was even a discussion about where to get a replacement floppy drive for an Apple Lisa! There is much discussion and advice on upgrading older Macs and this is very welcome.

This is a group with a very high throughput, so beware if you're going to download posts for reading later.

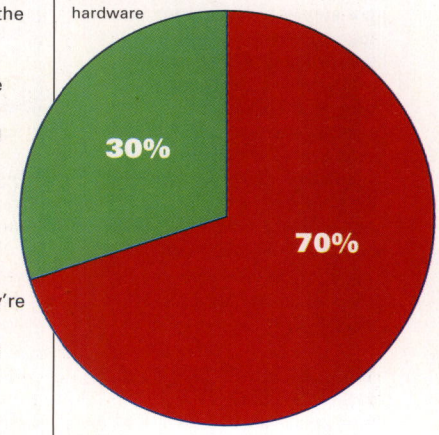
Average messages per day: 190

0 Flaming

0 Predictability

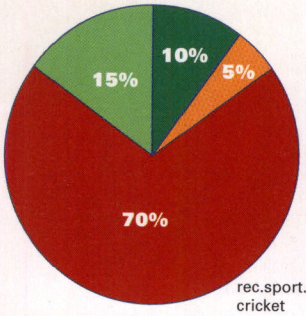
10 Friendliness

comp.sys.mac.
hardware



Key

- Gurus
- Bigots
- Activists
- Flashers



rec.sport.
cricket

REC.SPORT.CRICKET

If you're at all interested in the sound of willow on leather then this is the newsgroup for you (besides alt.sex.spanking!). One of the best things is it's nearly devoid of Americans, which makes a real change. Posters come from all the highly civilised nations that have discovered the delights of cricket and the posts are often thought-out and passionate.

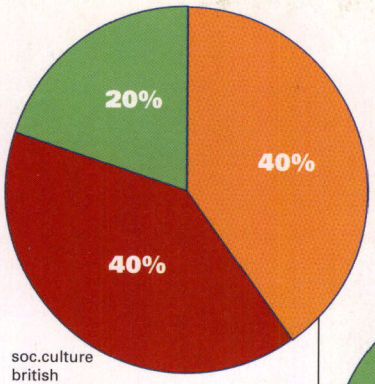
There are frequent debates about all-time top sides and comment on current cricket matches and tours. Interestingly, there are discussions about the way that the televising of matches has been carved up between the various networks.

Whenever there is a test going on there are very regular scorecard posts, plus archive sites where you can download just about any scorecard ever. Perhaps the most trivial, but fascinating, regular post is a list of important cricketing events on a particular day in history.

Naturally cricketing news is analysed, although many of the comments fall into the 'predictable' category, based on the country of origin of the message. This is a great example of a rec.sports group and I guess it's just like sitting in the bar at Lord's after a glorious day's play. The one disappointment is that there's not much good said about English cricket, but then I suppose that's a sign of the Internet reflecting reality.

Average messages per day: 70

0 Flaming
3 Predictability
9 Friendliness



soc.culture
british

SOC.CULTURE.BRITISH

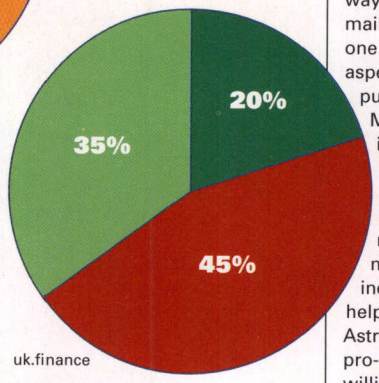
Discussions of all things British, such as the composition of the prison population, Mornington Crescent and the Queen's email address, can be found here. The group is mainly inhabited by the same old names who seem to have a view or opinion on any subject under the sun, which is pretty worrying if you consider that the whole world is taking this as representative of British culture. Some of the debate would be more suited to uk.politics as there are long threads with more of a party political than a cultural bias.

There are also countless posts from foreigners, who are planning trips to the UK, looking for information and want pointers to good tourist traps. These are readily answered, although often with a sarcasm which I doubt would be fully understood by the original posters. For some reason there are frequent questions as to the distinction between the UK, Britain, England, Scotland and Wales, which appears to confuse many people. Perhaps I missed it while lurking, but the group needs a regular FAQ posted on this one.

Amid the noise of the regular posters blowing off, there are some interesting discussions, but they are certainly not of sufficient quality to keep this in my list of subscriptions.

Average messages per day: 70

2 Flaming
7 Predictability
4 Friendliness



uk.finance

UK.FINANCE

This is a great newsgroup if you're interested in any type of finance. Both personal and corporate finance is discussed, along with the latest news in the arena.

One of the recent in-depth discussions was about the supposed crisis at Barings, which produced some of the best explanations of futures, options and derivatives which I've read. It's just a shame that the UK media didn't take a look at this newsgroup before going on about 'gambling' for all of those weeks.

Thankfully there's a good range of obvious experts in personal finance and fair advice and comment is given willingly. Many of the contributors who post about macro economics and corporate finance obviously work in these sectors, as shown by the email addresses. UK tax issues, especially PEPs, are well covered, and these postings are similar to the content of misc.funds.invest, which I looked at last month.

Average messages per day: 16

0 Flaming
0 Predictability
10 Friendliness

UK.MEDIA

Reviewing a newsgroup that reviews the media is a sure way of inviting a loaded mailbox, but here goes. This one covers every possible aspect of broadcast and published media in the UK.

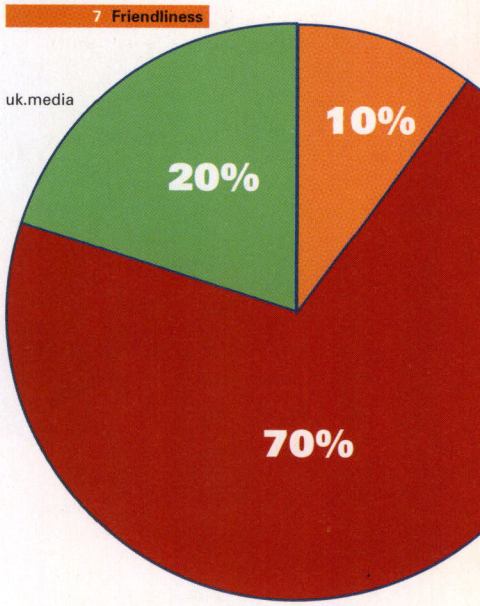
Many of the posters are involved themselves but there is healthy debate on all manner of subjects, with long threads generated on a regular basis. The posts are not purely comment but include requests for technical help, on topics such as Astra satellites and pro-logic decoding, which are willingly answered.

The media's coverage of the Internet itself is frequently discussed and there are many critical posts of the often poor level of journalistic reporting we all have to put up with when a programme or magazine just feels it's got to use the word 'cyber' in every edition.

This group is of interest to the entire Internet community and I'd encourage more people to read it and participate. Many of the journalists and programme-makers who cover the Internet use this newsgroup to get ideas and solicit responses, so if you're depressed by the quality of such programmes and articles, this is where you can have your say.

Average messages per day: 30

1 Flaming
2 Predictability
7 Friendliness



uk.media

UNDERSTANDING THE STATISTICS

THE TABLE

Flaming index: Marks out of ten for the amount of messages which are obviously inflammatory and best ignored.

Predictability index: Postings that are predictable, repetitive or just plain boring, eg "John Major's the best prime minister we've ever had."

"No he isn't."

"Of course he is. Blair's a bonehead."

"Well you would say that wouldn't you, you're a Tory!" ...would warrant an index of ten.

Friendliness: How open the newsgroup is to new posters – there's nothing worse after you've summoned up the courage to contribute to a group for the first time than to be answered rudely. Nice groups get a ten, cliquey ones get nothing.

THE PIE CHART

Based on message volume this shows how many people are active in the newsgroup. Those with a high percentage of bigots tend to be fairly cliquey and threads are generally quite uninformative.

Gurus: Posters who generally can contribute intellectually and informatively to a number of discussions, often clearing up arguments or dampening down heated discussions. They are the unofficial moderators of the Usenet.

Bigots: The contributors who'll always say the same thing – often without much thought about whether it's appropriate or not.

Activists: Contributors who participate freely in a number of discussions with well argued or informative postings.

Flashers: Occasional posters.

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☐ Please charge my ☐ Amex ☐ Diners ☐ MasterCard ☐ Switch ☐ Visa card (*tick which*)

Name on Card ..... **Card N°** ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Expiry Date ..... **Signed** ..... **Date** .....

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Int 05 / 95

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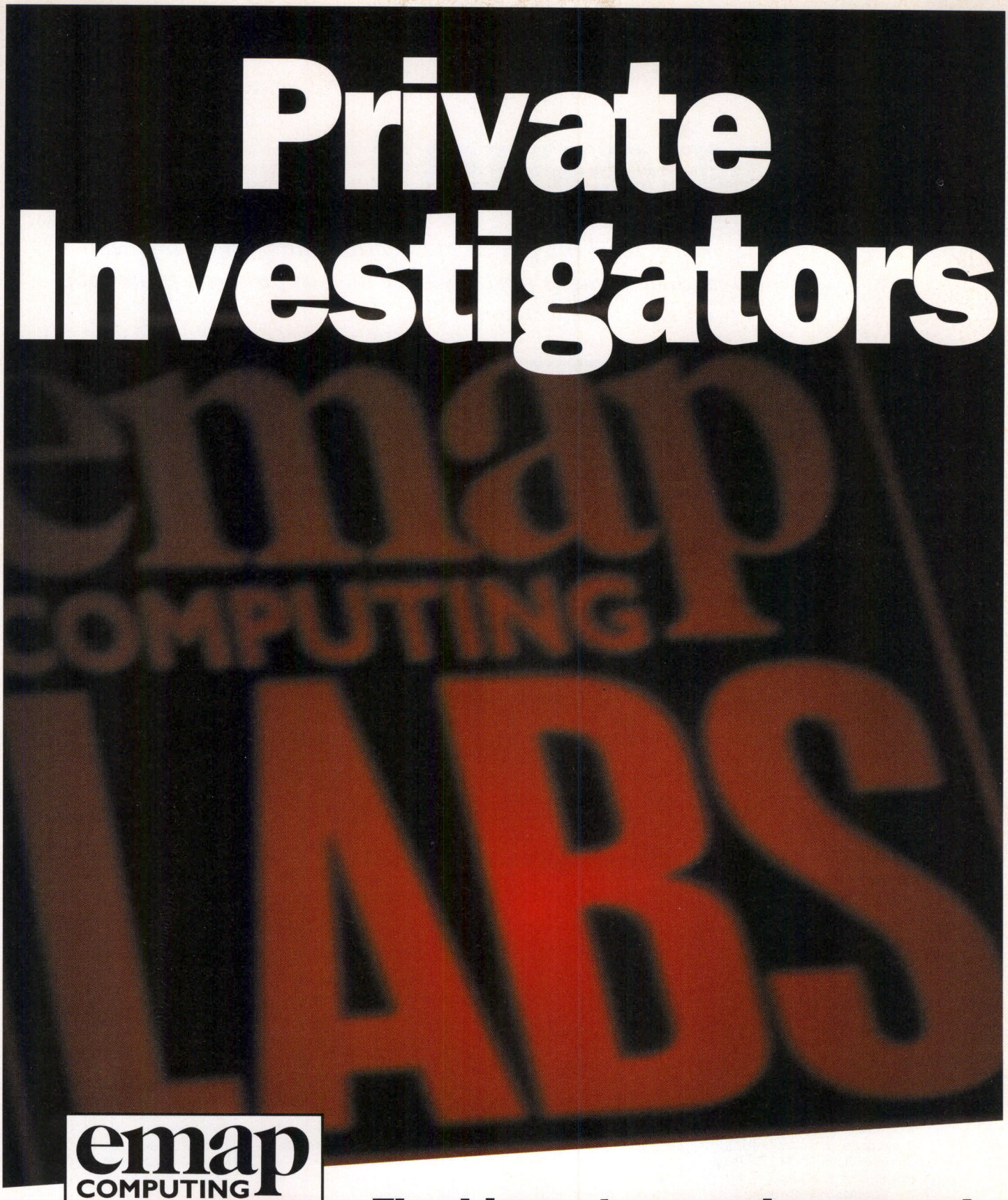
Private Investigators



emap
COMPUTING
LABS
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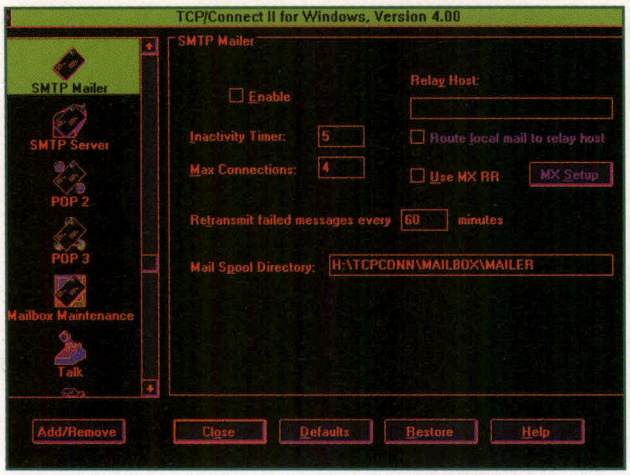
Reviews

Entry level integrated application suits, and a high end modem chassis for IAPs – we look at products from both ends of the spectrum

INTERCON TCP/CONNECT II FOR WINDOWS AND MAC

Interconnecting cross platform traffic with NetManage



Having the same application available in both Windows and Mac formats is nothing new nowadays, but Intercon's TCP/Connect II is the first Internet access application I've seen with this pedigree. However, once I'd installed TCP Connect II on both platforms I realised I was dealing with two different applications.

Intercon is known for its Macintosh products and has been producing software to connect Macs to TCP/IP for a number of years.

The Mac product is definitely from Intercon but on further investigation the Windows software is a re-badged version of Frontier Software's Internet access software (see SuperHighway Access, right). In terms of the user interface it's obvious that the two products have been designed together as they share many common features and configuration screens, but they are different and moving between them is confusing.

So what do you get for your money? Well, both packages are, to say the least, fully featured and offer everything you'd expect – mail transfer with SMTP and POP (2 and 3), a MIME-compatible mail system; a newsreader, FTP client and server, Telnet with VT320 and TN3270 terminal emulation, plus the 'traditional' Unix utilities Finger, Ping and Whois.

The Windows package also gives you NFS client and server software, a TFTP (Trivial File Transfer Protocol) server and modem/fax gateway, so that other users on your local lan can fax and dial up through a background task on your machine. Mac users also get a Web browser and Gopher client.

Installation of both products is simply a matter of inserting the disk and either double clicking or running setup.exe. However, as with most Internet access software the configuration is not as easy and requires a depth of knowledge of TCP/IP networking.

To set up the Mac version you first need to configure your IP connection, which can either be via MacTCP (supplied as part of the package) or via the built-in dialup SLIP and PPP options. Similarly, when you install the Windows version you have to specify whether you're using standard network drivers (ODI or NDIS) or the dialup SLIP and PPP options.

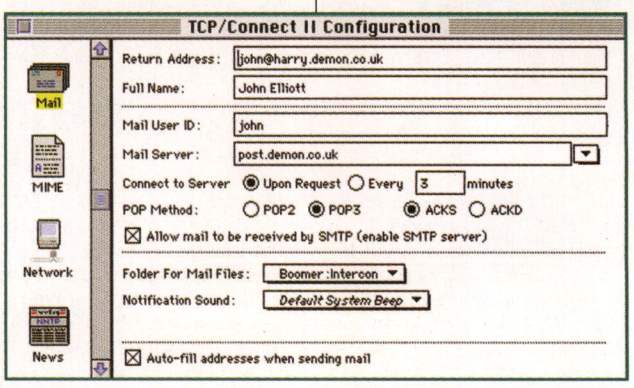
On the Mac there's one central application where you access all of the options from either a menu or buttons. On the PC version you use the TCP Connect II application to make your connection to the network and then start the specific applications.

I tried out both products with Demon and Cityscape and used the newsreader and mail applications heavily. Demon uses SMTP for mail transfer whereas Cityscape employs POP3. Both variants are supported and worked as expected. As both versions of the newsreader application are NNTP-based these worked fine (albeit slowly with Demon's 14,000+ newsgroups). The Mac version also includes an offline newsreader which then saves the downloaded news into individual mailboxes, one for each newsgroup you subscribe to.

My absolute favourite part of the Mac software is the FTP client which automatically senses whether files you download are in BinHex, AppleSingle or UUencoded formats and performs the translation to the standard Mac file format as the file is being downloaded.

When it comes to the documentation though it's a real disappointment. A lot of effort has been put in to making the thousand-odd pages you get with both versions easy to read, with lots of screenshots and little icons showing you how important different bits of information are. For me, though, it just didn't work and I felt frustrated whenever I tried to look something up.

As a reviewer of Internet access solutions, I am in the



fortunate position of being able to use any item I want. The Macintosh product is now my software of choice, although I use MacTCP instead of the built-in PPP driver as this allows me to use Netscape rather than the Intercon-supplied browser. The PC software is more of an enigma and I'm still torn between it and NetManage's Internet Chameleon, which has less features but a better user interface. In summary, both applications are good and have their strong points but neither really justifies its relative high price when compared to other similar applications and shareware.
John Elliott

Review in brief

TCP/IP CONNECT II FOR WINDOWS OR MAC V2.1 - £339

Pro: Fully featured – eveything you need to connect to the Internet and more.

Con: Lousy documentation and relatively expensive.

Contact: Principal
Tel: 0706 832000
Email:principal@eworld.com

US ROBOTICS' TOTAL CONTROL

Heavy duty boxes for would-be IAPs

Best known for its range of Sportster and Courier modems, US Robotics (USR) also supplies the modem systems used by many of the UK's IAPs (Internet access providers). At your local POP you won't find hundreds of modems all precariously stacked up on top of each other, but a rather impressive looking chassis which houses all of the modems and associated communications equipment. This is the type of system which USR supplies to IAPs and anyone else who needs to deal with lots of modem communications.

USR's chassis-based product is known as Total Control and the company has recently opened a UK division to sell and support the system. At the same time, Total Control has been upgraded.

The rack offers two redundant power supplies - if one fails then the system will keep working - and can accommodate up to 16 plug-in cards. If you're an IAP there are two types of card you will be interested in. The first is the modem card itself, which incorporates four V.34/V.Everything modems which can also support V.Fast class and V.32 terbo.

The other card you'll need is the netserver router card which provides SLIP and PPP support for dialin sessions and routes these to an Ethernet interface. A fully configured chassis would consist of 15 modem cards and one router card, giving a maximum of 60 simultaneous IP connections. Such a configuration would cost £50,590, which equates to £843 per port.

The chassis has been designed with the digital age in mind and among the other plug-in cards you can get is an ISDN interface that will take incoming ISDN calls and direct them to the same card-based IP router. The chassis is fully manageable, allowing you to monitor the activity on all the modems; upgrade the modem's firmware and re-boot 'stuck' modems.
John Elliott

Review in brief

TOTAL CONTROL – FROM £843 PER MANAGED PORT

Pro: Sound pedigree and durability make this a good choice for serious users

Con: Cost may deter would be entrepreneurs

Contact: US Robotics
Tel: 01753 831890
Email:sash@usr.com.

SUPERHIGHWAY ACCESS FOR WINDOWS

Pushing the frontier to access the Internet

For the beginner, finding useful software to access the Internet can be something of a challenge. There are numerous inexpensive 'total solution' packages around but they are often attached to a specific service provider, many of which only have a London POP. If what you require is a full IP connection over a dialup link, then SuperHighway Access from Frontier Technologies Corporation is worth serious consideration.

For £150 you will receive three discs and a 60-page manual. Once installed, SuperHighway Access provides you with a Ping utility, VT-100 emulator, FTP, email, newsreader and WinTapestry modules. This all sits above Master Services and a Super TCP kernel.

The setup is comprehensive and a bit complex, so make sure you have all the information you can on system addresses and machine names from your IP provider.

You can use the SLIP, CSLIP or PPP protocols. The set-up allows you to edit the modem script and include your logon and password sequences, together with checking the expected responses from your host.

Once you get through the installation, SuperHighway Access works well. It seems to be a well developed and bug free suite of programs. Double clicking on any of the applications will load TCP and initiate the connection and logon sequence.

FTP looks and acts very much like file manager, allowing you any number of configurations of logon and password to connect to a remote FTP sight. You can then browse the remote directory and transfer files either to your local drives or anywhere on your lan.

The real gem of the suite, however, is WinTapestry. This is a comprehensive Web browser and more. Its main screen is the Internet Organiser which arranges sites as items on the pages of a personal organiser. You simply click on the tab at the top to access the category then double click on the item to connect to a server. Icons by each site label indicate the type of server.

If you use a dropdown menu to connect to a site which is not in the organiser, you have the opportunity to create a new organiser entry. You can also create new categories and move entries between categories.

WinTapestry comes with a pre configured selection of WWW, Gopher, Archie, Veronica and WAIS sites, which are accessible and usable at the click of a mouse.

Although SuperHighway Access is a little more expensive than some other packages, it is packed with features and once you're over the initial set-up, it's both solid and usable.
Glen Collie

Review in brief

SUPERHIGHWAY ACCESS FOR WINDOWS - £115

Pro: Comprehensive and easy to use

Con: Complex set-up procedure.

Contact: Essential Computing
Tel: 01275 343199
Email:sales@essential.co.uk

INTERNET SHOP

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The INTERNET Book Service is the first part of the **INTERNET Shop** being set up by **INTERNET** magazine to cater for all your Internet needs. In coming issues, you'll be able to buy a complete range of books and services to help you to make the most of the world's fast-growing network of computer networks.

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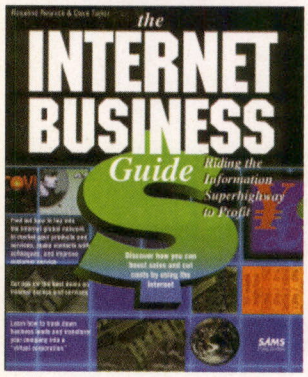
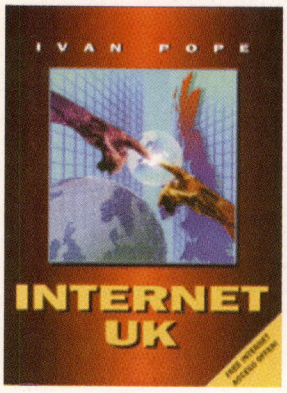


The Internet Business Guide
Rosalind Resnick & Dave Taylor, 418pp, Sams Publishing, £22.95

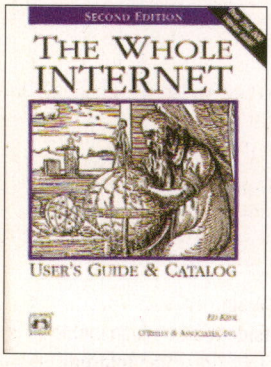
Subtitled *Riding the Information Superhighway to Profit,* this book provides a comprehensive round-up of the business that was being conducted on the Internet during 1994. The issues addressed by the authors include:

- Ways to use the Internet successfully to market your products and services
- How to create an Internet database, customer support centre and cyber-storefront
- Boosting sales, cutting costs and tracking down business leads by using the Internet
- Protecting your organisation from hackers, crackers and vandals
- How well businesses on the Internet have been doing



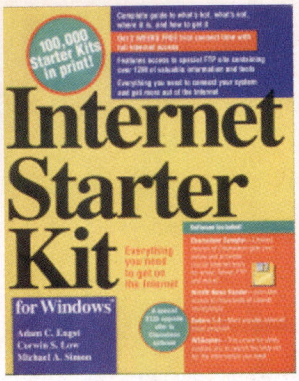
Internet UK,
Ivan Pope, 298 pages, Paramount Publishing, £19.95

The first book all about the Internet from a non-US perspective. Ivan Pope is one of the true pioneers in this field in the UK, and his book offers a wide-ranging account of how the Internet scene has been developing. There's coverage of what some of the main access providers have to offer, together with lists of British-based Usenet groups and commercial domain names. One month's free Internet access from CityScape comes free with the book.



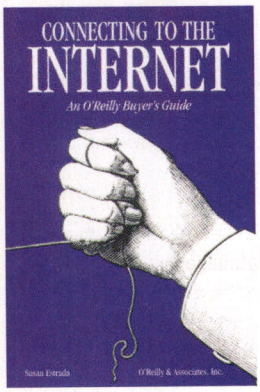
The Whole Internet User's Guide & Catalogue, *Ed Krol, 558 pages, O'Reilly & Associates, £18.50*

This is an absolute classic – and deservedly so. The second edition of *The Whole Internet Catalogue* has been updated to include sections about the use of modern Web browsers for storing and distributing information. It also includes updated coverage of multimedia email (MIME), Gopher, WAIS and Archie. There's also extensive coverage of what's legal, or at least tolerated, on the Internet, and what's not.



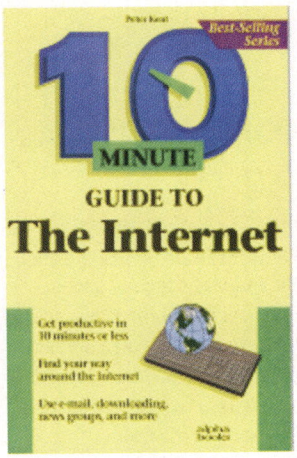
The Internet Starter Kit, ***Adam C Engst et al, 900+ pages, Hayden Books, £27.50***

One of the classic door-stoppers, this book tells you almost all you're ever likely to want to know about the Internet, in two versions: one for Windows-based PCs, the other for Apple Macintosh computers. Unlike the more cerebral *Unleashed,* this is a very practical book that covers all the history and the 'how to' of all the main Internet services. Also included is a disk containing Internet utility software.



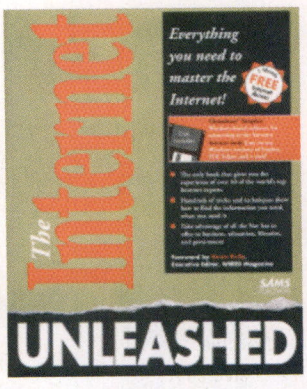
Connecting to the Internet, ***Susan Estrada, 176 pages, O'Reilly & Associates, £11.95***

An alternative to the popular *10-Minute Guide*, This book provides practical advice in a concise and carryable format. Topics include how the Internet works; understanding network performance; how to use the Internet; and how to use a network provider. It's US-biased, but a useful general introduction.



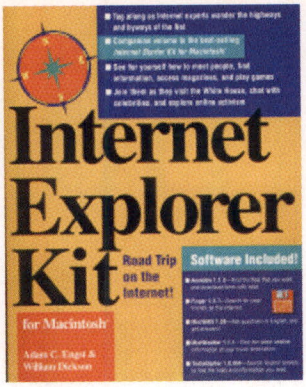
The 10 Minute Guide to the Internet, ***Peter Kent, 164 pages, Alpha Books, £9.95***

One of our most popular books, the *10-Minute Guide* has been a big hit at the conferences and exhibitions we've attended. Low on page count, but extensive and concise, for once the publisher's blurb 'Get productive in 10 minutes or less' is a reasonable claim. Topics covered include: how to connect; sending and reading email; finding files; working with news; and listserv groups; and more.



The Internet Unleashed, ***Various authors, 1398 pages, Sams Publishing, £40.95***

The biggest of them all, *Unleashed* includes articles by all the Internet world's top movers and shakers. You'll never get it into your brief case, but you'll find it hard to ignore. It's impossible here to give even a flavour of its content, but suffice to say, it has contributions from every major Internet provider, including several from outside the UK. Also included is a disk containing Internet utility software.



The Internet Explorer Kit, ***Adam C Engst et al, 400+ pages, Hayden Books, £27.50***

Sequel to *The Starter Kit,* this is also in Windows and Apple Macintosh editions. A slimmer volume, but still over 400 pages, the focus is much more on proper social behaviour on the Internet and how to set up your own web server and news groups. This also includes Internet utility software.

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Join the fast-growing group of **INTERNET** subscribers. For just £19.95 a year (in UK) you'll get, delivered each month to your door, a whole year's supply of the world's first guide to What's On, Where To Go, and Who's Doing What on the Internet. Every year, **INTERNET** publishes:

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❑ The Whole Internet User's Guide and Catalogue	**£18.50**
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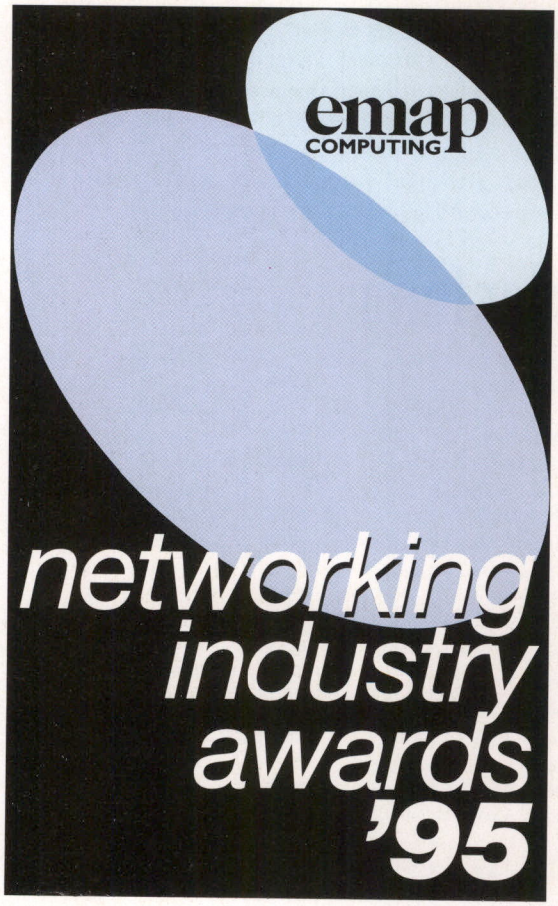
What does it take to net one of our awards?



Networking Industry Awards

EMAP Computing

Greater London House

Hampstead Road

London, NW1 7QZ

Fax: 0171 388 2480

Following last year's success we are proud to announce The Emap Computing Networking Industry Awards 1995, a celebration of the people and products that have made the past year so exciting.

Who will be the Network Professional of the Year, The Communications Manager of the Year? Which project will be voted Network Project of the Year?

The nominations are up to you. Select the individuals or projects you think deserve to be put forward for consideration. Complete the entry form in this magazine or contact 0171 208 5166 and make sure you are there in person on the night to see the results.

As well as the User Awards there will be Product Awards voted by our panel of judges from LAN Magazine, Datacom and Communication Networks. Fourteen categories will cover virtually every type of product in the industry.

Everybody who is anybody in the networking industry will be represented at this gala awards evening in the fascinating surroundings of The National Motorcycle Museum. It's the perfect event for you to renew old contacts and make a few new ones.

So if you know who's got what it takes, call 0171 208 5166 for an entry form, or look in this magazine.

The User Awards Categories

- Network Professional of the Year
- Communications Manager of the Year
- Network Project of the Year
- Finance Project of the Year
- Retail Project of the Year
- Government/Public Sector Project of the Year
- Health Industry Project of the Year
- Reseller of the Year
- Manufacturing/Industrial Project of the Year
- Systems Integrator of the Year.

LAN MAGAZINE

DATACOM

COMMUNICATIONS NETWORKS

The Product Awards Categories

- Network ready PC of the Year
- Network File Server of the Year
- Messaging Product of the Year
- Workgroup Software Product of the Year
- LAN Management Product of the Year
- Hub Product of the Year
- Routing Product of the Year
- Remote Access Product of the Year
- Host Integration Product of the Year
- Cabling Product of the Year
- Enterprise Network Management Product of the Year
- Service Provider of the Year
- ISDN Product of the Year
- Voice Integration Product of the Year.

User Award nominations should be accompanied by a brief description of the outstanding qualities which make the person/project eligible for the respective award.
For further information contact Sarah Janes on 0171 208 5166. The closing date for all entries is 14th April '95.

THE NETWORKING INDUSTRY AWARDS • 27TH JUNE 1995 • NATIONAL MOTORCYCLE MUSEUM, BIRMINGHAM

Frequently asked **Questions and answers**

Don't be afraid to ask, because this is where agony uncle John Elliott answers your questions about the Internet. Send your queries to faq@computing.emap.co.uk

FEATURED FAQ

***?** I'm having problems downloading and installing Netscape, can you explain why?*

You don't say whether you're using a PC or a Mac so let's look at both versions. You can only really download the latest version of Netscape from Netscape's own FTP server - ftp.mcom.com. This is a problem for you and the 15 million other people in the Internet community who are all desperately trying to get their hands on the software as well. This means that Netscape's FTP server is continually busy and your request to make an FTP connection will often be refused. So the first recommendation is to get up early one day and do the download as soon as you can in the morning (when the majority of the US is in bed) - I do my downloads at 6:00am.

You may be able to download using your existing browser but a dedicated FTP client package such as Fetch or Winftp is preferable. The full URL's for the files are: for PC, ftp://ftp.mcom.com/netscape1.1b3/windows/n16e11b3.exe; and for Macintosh, ftp://ftp.mcom.com/netscape1.1b3/mac/netscape_1.1b3.hqx. Download the file to a temporary directory/folder on your computer – I have created one called TEMP for my downloads. Even though it's a self extracting file, for Macs you'll also need a helper utility such as Unstuffit to convert it from binhex to an executable file. The PC looks after this internally.

Now, just log on to the server entering Netscape's FTP address into the appropriate box, anonymous as your user name and your email address as your password. Make sure you choose the binary transfer option rather than text otherwise the file will not be executable.

Once you have downloaded the compressed version of Netscape onto your hard disk, you'll need to expand it. It's a self-extracting archive so that when you run the program it will miraculously expand into lots of separate files.

Warning: You should do this expansion on a hard disk and definitely not a network; you should also virus check the file you've downloaded (as you do with any file you download from the Net).

ON THE PC

To expand the archive on the PC, go to the DOS prompt and change to the directory where you've downloaded the n16e11b3.exe file (which if you follow my recommendations should be called TEMP). To run the file just type n16e11b3.exe. This will create lots more files in the directory. Before you complete the installation you're advised to make backup copies of your WIN.INI file in case anything goes wrong and to do another virus check.

To finish the installation, start Windows and in File Manager select your download directory and double click on the file setup.exe – again if you've been following the examples it should be C:\TEMP\SETUP.EXE. Follow the instructions on screen where you'll have to specify a directory in which to install Netscape – most people choose C:\NETSCAPE – and the program group you want the icon installed in. When the installer's finished you'll have a new icon in the group you specified. To test it, make a connection to your access provider using WINSOCK compatiblecommunications software and then launch the Netscape application. When you're happy that everything's working, you can delete the contents of the \TEMP directory.

ON THE MAC

If you double-click the Netscape 1.1b3 Installer icon you'll be asked which folder you want to install the software in; select the appropriate folder and the files will be decompressed. An icon named Netscape 1.1b3 will appear which you simply double click to run.

If you've a MacPPP or MacTCP connection up, then the software should start. To be safe, you should perform a virus check after you've completed the installation.

UNABLE TO LOCATE

***?** I have downloaded Netscape from the FTP site but when I start it up, having connected to Leaf, I get the message "unable to locate the server, the server doesn't have a DNS entry" - what's wrong?*

This message often means that the DNS servers that are resolving the name www.mcom.com are busy or that the server itself is too busy. Just try again later, or enter another Web address.

SUPPLYING ACCESS

***?** How do you go about becoming an access provider? I understand what hardware and software you need, but where do you connect to the Internet? What are the likely set-up costs?*

Last month we looked at what it takes to become an access provider. That should answer at least some of your questions. To connect to the Internet, you'll need to buy a routed 64K connection from one of the backbone providers such as Pipex, BTnet, Demon, or Eunet, so that you can hook up to the Internet backbone in the US. Apart from things like news, Web and mail servers your initial costs for comms equipment will be in the region of £65K for around 60 modem lines. Your connection will cost about £12,000 per year.

LONG ADDRESSES

***?** Can you explain why all of the addresses on the Internet are so long? Also why do lots of Web sites have the tilde (~) character in them?*

OK, imagine that you're a Martian and look at our mailing address at **INTERNET** (it's on the front page). To send a letter to the editor you'd have to type in 57 characters, if you want to email Neil then you only need 26. I know which the Martian would think more efficient!

A Web address typically

consists of a host name, a subdirectory path and a file name. So the Web address www.emap.co.uk/comp/magazines/internet/events/artfest.html specifies the file artfest.html in the subdirectory /comp/magazines/internet/events on the computer called www.emap.co.uk. As web sites evolve organically you'll see mammouth subdirectory structures develop which will then periodically be cleaned up.

The tilde characters you see in some Web addresses are typically part of a subdirectory name. You usually see them on Web pages produced in Universities and the ~ is usually before the user's home directory.

JUST BROWSING

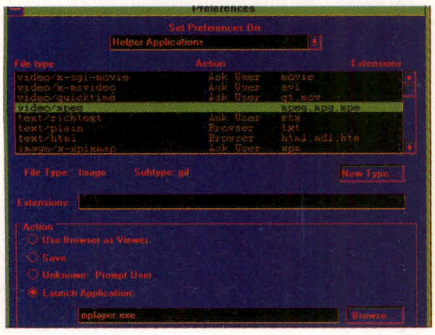
? *Why is it that some Web sites featured in your "Whats-On" guide look different on my PC?*

One of the properties of the language the Web's developed in – HTML – is that how a document appears on your screen is very much up to the browser you're using.

NOT SEEING STARS

? *I'm experiencing problems with the multimedia WWW Stars and Galaxies site* (http://www.eia.brad.ac.uk/btl/) *on my PC.*

Ensure that you've the right decompression hardware/software. To play MPEG files at full speed on a full screen you'll need an add-in board, and Windows' Media Player. It's possible to get away without the board if you have an MPEG viewing application, but the image will be only be small and may run slowly. Then you need to configure Netscape: Select Helper Applications from the Preferences menu, find the entry video/mpeg, set the option Launch Application and then type mplayer.exe into the text box.



DIS Demon–stration

Last month we highlighted some of the trials and tribulations that one of our writers, Tim Dawson, experienced with his Demon Internet connection. Tim's experiences are typical of the countless messages we receive. If you've written or are thinking of selecting Demon as your access provider, **INTERNET***'s resident technical guru demystifies the complexities of Demon's software – DIS.*

So, lured by the promise of all the Internet you can possibly want for 'only' £10 a month, you've signed up on the dotted line with Demon, only to discover within four hours that you haven't quite bought what you expected. Before we disassemble the software most DOS users employ to connect to Demon – DIS – it's important to work out what you're getting for your tenner.

All that Demon supplies for your fee is a dial-up connection to the Internet. This means you're allocated an Internet address, and a number to call to hook into the Internet. What you do when this network-type connection has been established is up to you. Demon don't supply you with the software to make the connection nor any of the software you'll need to send mail, access Usenet, download files or use the World Wide Web.

On its own then, what Demon sells is only half of what you require and you need to get the other half, the software, from somewhere else. There are many commercially available packages for both Windows and Macintosh, such as Netmanage's Internet Chameleon and Intercon's TCP connect II (reviewed on page 92), alternatively you can get numerous shareware packages for all types of computing platforms.

Demon will send you a shareware application called DIS, which lets DOS based computers connect, via Demon's service, to the Internet. Shareware, by it's very nature, is not supported in the same way as commercial packages, and unfortunately it's getting the shareware application DIS working that causes most user's headaches with Demon's service. If you want to buy a fully supported commercial application from somewhere else and use it with Demon then they'll be happy, and if you want to buy a combined software/Internet access deal from another provider – that will be supported as a whole–then that's your prerogative and one you shouldn't forget.

Demon will send a disk of DIS for £7.50 or you can download it from their system.

WHAT IS DIS ?

DIS is a suite of three applications tied by a front-end menu and configuration program – DIS.EXE. The most important piece is the NET.EXE program based on KA9Q, the popular shareware program for Internet access, developed by radio ham Phil Karn. NET connects your computer to Demon's gateway to transfer mail and news postings as well as to initiate FTP and Telnet sessions.

For email it uses PCElm, an off-line mail composer and reader. Off-line means that you write and read mail when you're not connected to the Internet. This takes place when you connect, in two transfers, one from Demon to your computer, and the other from your computer to the Internet. The advantage of an off-line system is that you're not paying phone charges to read and reply to your mail. The final piece is SNEWS, an off-line newsreader, which downloads unread Usenet and uploads your postings when you connect.

UNDERSTANDING YOUR CONNECTION

When you call Demon you're physically connecting your computer to the Internet. While you're connected your computer is actually part of the Internet with it's own Internet address and host name. NET makes this possible and establishes a PPP (Point-to-Point Protocol) connection. PPP is a protocol that lets computers talk Internet Protocol (IP) over modem lines. The connection is established between your computer and one of Demon's gateways. Once connected your computer starts a number of separate communications with different computers at Demon and the Internet.

UNDERSTANDING THE CONFIGURATION

Before we explain the intricacies of DIS and how to use it for electronic mail, and newsgroups, let's take a look at where the configuration information is recorded and how to change it. Check your settings against ours to make sure that your set-up is OK. Everything described here is shown with DIS version 2.16. If you're using an earlier version, we'd strongly recommend the upgrade.

Let's start with three major main menu configuration options.

AUTOEXEC.NET AND DIALER

These files concern NET.EXE which controls your connection to Demon. To see your configuration, select option D. Configure Net from the main DIS menu. Select option A. Configure AUTOEXEC.NET and DIALLER, the other options are more advanced.

Async Handler Options: Unless you've a high speed serial card with a 16550A UART, leave this blank. If you have and you're convinced that NET isn't recognising it then type in 'f'.The next screen we can change is hidden behind this one and we get to it by pressing 'F6'.

Start Your SMTP Server: This asks whether you want to send and receive email when you dial in. If it's set to 'N' you won't ever get any mail so I guess that you'll always want to have this set to 'Y'.

SMTP Batch On: Leave this set to 'N'.

Receive News: If you want to connect to the news server when you dial in and pick up new newsgroup posts, set to 'Y'.If you don't set it to N.

Print Verbose News Msgs: This displays a one-line description of each news message as it's being transferred between Demon's news server and your computer. You might find this distracting but I'd recommend you leave it set to 'Y', so can watch the news transfer and make sure it's working properly.

NNTP Batch Buffers: This tuning parameter lets you speed up news delivery. You shouldn't change this until you're sure you've a fully working configuration. The default is 4, leave it at this until you're trying to make DIS work faster rather than just make it work!

Start your Telnet Server: Do you want other users to be able to connect to your computer over the Internet when you're logged into Demon? If not, leave this set at the default of 'N'.

Beep when mail arrives: If this is set to 'Y' then every time you get a new mail message your computer will 'beep' to alert you. This parameter's not important, set it at what ever you want – the default is 'Y'.

Your idle out time: This setting determines how many seconds NET will wait before terminating your connection when no data's crossing the link. This may save you a hefty phone bill if you are called away from your computer. Use a minimum of 120 seconds otherwise NET might drop your connection over a slow link. You can disable this feature by typing in zero, and rely on Demon to drop your connection if it sees no traffic – typically after 4 minutes of inactivity.

However be warned, if you disable this in NET, and the Demon system doesn't do what it's supposed to, you might find yourself with a very unexpected phone bill.

To quit this menu of options and save any changes you make press the 'F3' key.

The final screen allows you to change the way you dial Demon and also, somewhat perversely, it's where your password's kept. To access this press 'F5'.

Modem Initialisation String: We could fill the whole magazine with advice about what to type in here. These commands are sent to the modem to configure it to dial Demon. The default's ATZ which will probably suffice half of the modems in the world. To find your optimum setting look in your modem's manual or consult the MODEMS.TXT file which came with the Demon software.

Dial Command: Use ATDT on a telephone exchange that understands tone dialling (or as BT call it "Touch-Tone") or ATDP if you're on the old pulse type of exchange.

Long distance: Mercury users can type in their access number and codes here.

Attempts: Sometimes when you dial, you'll get a BUSY message which means Demon's lines are engaged. If this happens, NET will keep trying for the number of times specified here. The default's 50.

Telephone Numbers: Type in the phone number of the nearest POP, (Point of Presence) here. Press 'F10' to get a list of Demon's POPs. There's several fields, so you can add alternative POPs to call if one's engaged. DIS will try them sequentially, until it connects. I've got two numbers entered, the BT and the Energis number for the main Finchley POP.

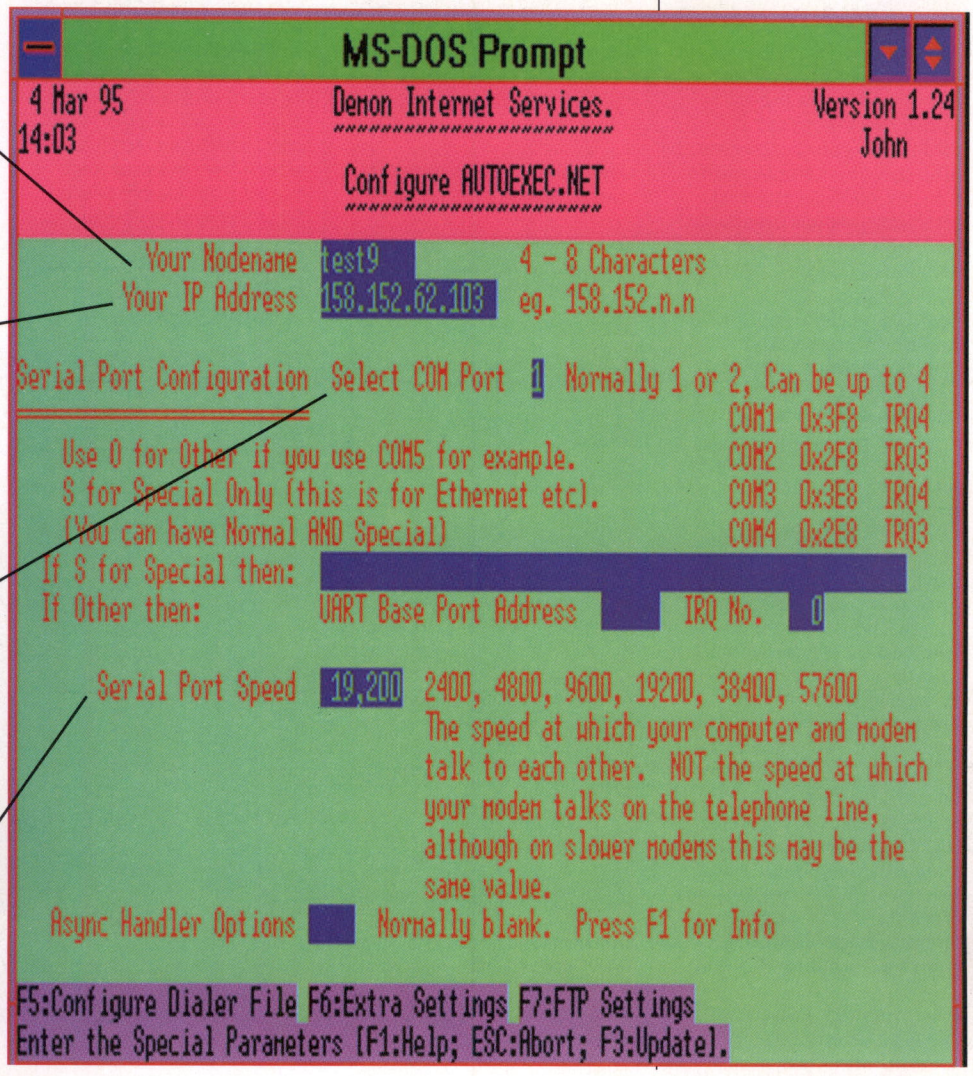
Password: Your password will appear here. Remember,

1. Nodename: This is the node name you selected when you arranged your Demon subscription, in my case it's test9 which gives a full host name of test9.demon.co.uk.

2. IP Address: This is the address you wrote down when you dialed in to set your password. You must make sure you type in this number exactly as you wrote it down. The address consists of four numbers separated by full stops. The first two numbers will always be 158.152. Typing this in wrongly is one of the major causes of problems that people get when trying to connect.

3. Serial Port: Specify which serial (COM:) port your modem's connected to – most commonly this will be COM1: or COM2: If you don't know then you can often find out by looking at the back of your computer. If this is wrong then your computer and modem won't talk to each other.

4. Serial Port Speed: This isn't the speed which your modem talks to Demon, but the speed that your computer and modem communicate. Unless you've installed a high speed serial interface leave this set at 19,200. If you've a very old, slow computer then you should probably set it at 9,600.



with Demon, passwords are case sensitive, so make sure if it's in lower case, to enter that way here. This is the most common set-up fault. To make sure I never get it wrong mine's entirely in lower case with no spaces.

Prompt send: This should be set at 'PPP'. Unless you're a confident user don't use the other settings which allow you to defeat Demon's own inactivity time-out or you might receive huge phone bills.

Again it's 'F3' to leave this screen and confirm any changes.

Finally, to leave the main NET configuration screen it's 'F3' followed by 'U' to write any changes you've made to the configuration files.

MAIL

There are thankfully less really important options when configuring mail. To get to the mail configuration screen you select F. Configure Mail from the main menu and then A. Configure PCElm from the mail configuration menu.

User Name: This is the name part of your email address which is the bit before the @ symbol. It defaults to your first name although you can overwrite it. In my configuration it's set at john which means my mail address would be john@test9.demon.co.uk

Host Name: This is your full host name which consists of your node name followed by .demon.co.uk – in my case it's test9.demon.co.uk.

Full User Name: This name will appear on users' screens when they read a mail message from you.

Reply to: Unless you want your email sent elsewhere this will be your user name followed by @ and then your host name. Should you wish to receive it on another system – perhaps one at work – you can use another.

Confirm on Exit: This prompts you with "Are you sure" when you quit from mail. Novices should keep this set to 'Y' as it's easy to press the escape key too often and end up at the main menu unintentionally.

Maximum No. Letters: Keep this high enough that you never hit the maximum otherwise it will slow down your mail transfer. You can happily leave this at the default setting.

Direct Prints to: The port where you're printer's attached, usually lpt1.

Your Editor: You can change your editor to compose mail – say if you're familiar with a DOS editor you've used for years, otherwise have this set at 'builtin+' which will use the mail software's editor.

Pager/Viewer Program: Again, you can choose a familiar viewer or editor, or leave this field blank to use the one that's built-in.

NEWSGROUPS

Select option 'E' to configure the newsgroups' options. Choose Configure News from the main DIS menu. When you connect to Demon you'll retrieve a large news package. When you've received this package and disconnected from Demon your offline reader will process it into the right groups. We'll first consider the technical configuration, so select 'A'. Configure SNEWS from the Configure News menu.

User Name: This is the part of your email address before @.

Your Full Name: This name will appear in your newsgroup postings.

Reply to: Your preferred return email address.

Your Organisation: The newsgroup protocol specifies that newsgroup postings always come from someone at an organisation. This is composed of your full name and the contents of this field. You will probably want to change this to specify your company or you could just put "home". Some users put all manner of things here like "the end of my tether" or "the gates of dawn".

Quotemark: When you reply to a newsgroup thread it's usual to quote the original message.This shows what symbol will appear next to the text you're quoting so that readers can see what you've added and what you're replying to. You can leave this at the default.

Another important configuration option can be found by pressing 'F6'.

Temporary File Dir: Novices can ignore all but one of the settings on this screen, however the option that might cause problems is the location of the temporary directory. Make sure it has a good 4MB free, as this is where the news package is stored until it's processed. To select which newsgroups you want choose option B. Maintain Newsgroups from the Configure News menu.

You'll see a list of newsgroups put in during installation. Unless you want to spend your first on-line session downloading thousands of messages, cut this down. To delete a group, put your cursor over the name and press the 'F6' key. I always leave the major Demon groups to find out what's happening there (and with DIS). Even with a short list your initial download can be several hundred messages and will take some time. Make sure you keep demon.test if you want to follow the example below. Eventually, you'll want to expand your list of groups. To add a group press 'F5'. To exit maintenance, follow the familiar sequence of 'F3' and 'U'. This time the screen will change a few times as other programs are called to maintain newsgroups.

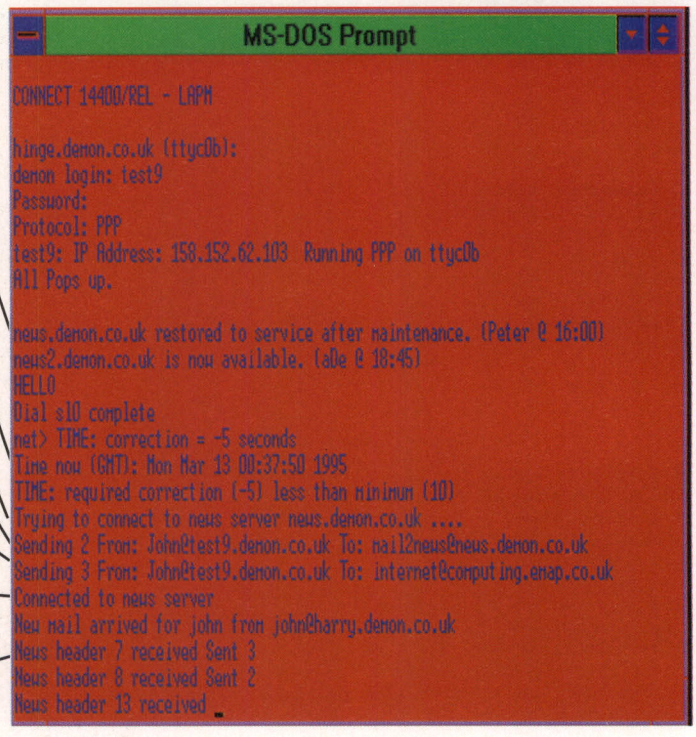
A SIMPLE SESSION

To show how it works, we're going to send a mail message and post to a newsgroup.

1. Compose a mail message

Select C. Mail from the main menu.

Type 'm' to compose a new message and then type in the address you want to send to. You can send a test mail to **INTERNET**, our address is internet@computing.emap.co.uk, and we'll send you an answer when we get it. Type in "new user" as the subject. You're now in the mail



1. Before you get the net> prompt you see the message of the day which gives important news about Demon's service

2. This is the connection to the time server

3. Here NET trying to make the connection to the news server

4. This is the confirmation that your newsgroup posting has been sent OK

5. This is the confirmation that your email's been sent OK

6. This is Demon's system confirming that you've established a connection to the news server

7. This is your newsgroup data being sent

editor, so just type a short message and press escape to save it.

You'll now see a prompt at the bottom of the screen asking whether you want to abandon, send or re-edit the message. Press 's' to send it and the message will join a queue to be transmitted when you connect.

2. Post to a newsgroup
Select option 'B'. News. from the main menu.

To post a message to the group demon.test, use your cursor keys to move the arrow down until it's pointing to demon.test and press 'w' to post. You should answer 'y' to the message Group: demon.test, post to *this* group (y/n)?. Type in This is a test posting for the subject line.

Now type in a couple of lines of text, when you've finished press 'F7' to exit, and then when you get the message Save as: type post.tmp.

You now have three options, 'p' to post the article, 'e' to re-edit the article or 'a' to abort. Press 'p'.

This posting will now join the queue to be sent next time you connect.

3. Going on-line
If you've followed the test mail and test posting above then you'll have two mail messages, one destined for a user and the other for a newsgroup ready to be sent to the Internet – you'll also see the message "Mail needs uploading" flashing on the main DIS menu, so now it's time to log on.

Select option A. Logon to Demon (run net) from the main menu.

When you see "HELLO" you're connected. The NET program then connects to Demon's time server to set your computer's internal clock to GMT, if it's out by more than ten seconds.

NET also starts your SMTP server which will begin delivering your mail. If you've sent a mail to **INTERNET** then your computer will try to contact our mail server. If it's unsuccessful it will be delivered to Demon to be stored and automatically forwarded.

When you logged in, the gateway machine you connected to sent a message to Demon's mail server (post.demon.co.uk) to say that you were available on the Net. This will start an SMTP transfer between post.demon.co.uk and your computer. If you're not getting expected email, check if there's any mail waiting for you by typing finger followed by your nodename@post.demon.co.uk at the net> prompt – eg. finger test9@post.demon.co.uk. You can start the SMTP processes manually by typing smtp kick at the net> prompt.

The final session that NET establishes is between your computer and the NNTP news server (news.demon.co.uk) – this will then start gathering all the unread posts in the newsgroups you've subscribed to. If you fail to connect to the news server – which often happens at peak times – then you can start the news session manually by typing nntp kick.

4. Logging off
When the transfers appear to have stopped, the net> prompt is on your screen and you don't want to do anything else like an FTP session, then it's time to disconnect.

Make sure there's no mail sessions still in progress. If you type session (or just se) at the net> prompt, you will see the active sessions between your computer and others on the Internet.

If there are no entries in the table then it's safe to log out – type exit at the net> prompt.

If you've downloaded any newsgroup postings, when you disconnect DIS will automatically call 'Unbatch' to convert the big news package into the SNEWS format. If you've downloaded lots of new postings, expect it to take several minutes – don't worry, the system hasn't hung. If your disk's filling up, 'Unbatch' will report an error.

Don't panic – you don't have to go through a long download again; simply quit DIS, delete some unwanted files, re-run DIS and select option E. Run the Unbatch Program from the Configure News menu.

WHEN IT GOES WRONG

1. No Modem
If, in the NET configuration screens, you've set the number of retries to 50 then this input line: wait 3000 "OK" message will appear on the screen 50 times. The constant repetition of this message means that your computer's not talking to your modem. To quit this sequence you press the escape key, then return. Now check which COM: port your modem's plugged into, change your configuration and try again.

2. Modem Set-up Wrongly
Although this looks very similar to the sequence above it's subtly different. This is a very common modem configuration problem. NET sends the command ATZ to your modem, telling it to return to its default state. In this case, one of the features of the default state is that the modem replies to all commands with the number 0, instead of the text message "OK", which is what NET is waiting for.

NET will keep sending the ATZ command to the modem until it gets the "OK" message back. To remedy this problem you need to change the modem setup string in the DIALLER configuration to ATV1.

3. Modem not plugged into the phone line
The message NO DIALTONE means precisely that, the modem can't hear a dialtone on the line. In nearly all cases this means that your modem isn't plugged into the telephone line.

4. Modem not properly configured
You get the "OK" back from the modem, and hear it dial the number, a noise that means the two modems have talked to each other and then silence. After a while the "NO CARRIER" message appears on screen. This generally means that your modem's not talking properly to the modem at Demon and that it's time to turn to your modem manual. Read the MODEMS.TXT file that comes with the Demon installation or finally call the Demon support line.

5. Wrong IP Address
This is a hard one to spot. Everything seems to work OK, you even get to the net> prompt, however after this nothing happens. You should connect to the Time server and have your computer's clock set correctly. However the problem is that as Demon expects you to be at the IP address you allocated (in the above example158.152.62.103) and you've actually got a different number in your configuration files, the Internet traffic destined for you goes nowhere. If you get this "nothing happening" scenario, check your IP address.

6. Wrong Password or Node Name
This message means that you've typed your password or your node name incorrectly. Check your configuration screens. Remember that passwords are case sensitive. If you can't remember your password, call Demon's support line to reset it.

7. No mail or news sessions take place
You log in, and connect to the time server OK, but your computer doesn't attempt to get in touch with the newsgroup server or the mail servers. You've probably set the Start SMTP Server and Receive News to 'N' in your configuration. You can start both processes manually within NET by typing nntp kick at the net> prompt to open a connection to the news server and smtp kick to activate email.

8. No answer
The modem dials OK, the phone rings, but the modem at Demon doesn't answer. The line you've called is dysfunctional at the moment but may be all right the next time that NET tries dialing. If you get this problem successively, it may mean there's a serious problem at Demon.

The BUSY message on your screen shows that Demon's engaged. NET will redial, so just be patient. Demon has hundreds of lines so it's rare (nowadays) for the service to be constantly engaged. If you get the BUSY signal for a few hours then it probably means that Demon are doing emergency or scheduled (check the newsgroup demon.announce) maintenance.

So there it is, our comprehensive guide to getting DIS working. If you'd like to see more articles on DIS and NET then send your feedback to neile@computing.emap.co.uk

FAQ&A

The Glossary

Acronyms abound and the terminology can be confusing, but **THE INTERNET GLOSSARY** *makes sense of it all*

A

ACCESS PROVIDER
A company that sells Internet connections to people. Also known as an IAP (Internet access provider). It typically buys its Internet connection from one of the members of CIX, installs its own news, mail, FTP and Web servers and distributes the necessary software to its users.

ANONYMOUS FTP
When you connect to a computer on the Internet to download a file, you usually use File Transfer Protocol (FTP). With anonymous FTP you don't have to be recognised by the system you're contacting – you just log in anonymously. Most of the time you'll see the instruction 'You can get this file by anonymous FTP from ftp.microsoft.com.' When you log in, type anonymous as your name and give your email address as the password, if one is required.

ASCII
American Standard Code for Information Interchange – a language understood by all computers which encodes numbers and the basic text characters. For example, the number 65 represents the character A. To use FTP successfully you have to know if you're transferring ASCII or binary files.

API
Application to Program Interface – software which enables two pieces of otherwise incompatible software to communicate with each other.

ARCHIE
A host-based program which searches for files stored on countless Anonymous FTP sites across the Internet. Access Archie by sending an email to the main Archie server, archie@archie.mcgill.ca with 'help' as the subject, and you'll receive a user guide by return mail. Alternatively, there's a WWW interface to Archie at http://web.doc.ic.ac.uk/archieplexform.html

APPLELINK
A BBS operated by Apple for users of Macintoshes. You can send mail to AppleLink users by addressing it to username@applelink.apple.com

APPLETALK
This is the communications protocol invented by Apple, built into every Mac and used exclusively on Macintosh networks.

ASYNCHRONOUS
One of the ways that communications devices talk to each other – data is transmitted one bit at a time and the start and finish of each byte is marked by an additional bit. In this way the receiving computer can distinguish each byte received. When you dial into the Internet using a modem it will be communicating asynchronously.

B

BACKBONE
The central section of a network to which other networks connect. If data needs to travel from one network to another it will go over a backbone. In the Internet the backbones are the high-speed data connections that join together the main access providers and government or educational sites.

BAUD RATE
The speed rate of a data channel – expressed as bits per second (bps) – which is usually used when referring to modem speeds.

BBS
Bulletin Board System – the electronic equivalent of the office pinboard which typically runs on a single computer with lots of modems hooked up to it. Users dial into it to leave messages and files which can then be read by other people dialing in.

BINARY
This means counting with just 0s and 1s. It's used a lot in computing because it's how computers work internally. The most common place you'll see it on the Internet is in reference to file types, which are either binary or ASCII. An ASCII file contains seven-bit bytes whereas a binary file contains eight-bit bytes. It's important to know which format a file is in because some systems can only deal with ASCII.

BITS AND BYTES
The very stuff of computing – a bit is the smallest piece of information that a computer deals with – either a 0 or a 1. The word bit comes from Binary digIT. Bytes are a collection of bits and usually come in the form of seven-bit bytes and eight-bit bytes.

BRIDGE
This is a device that connects two networks together. It simply concerns itself with the physical address of the packet, not with network protocols. It receives a packet of data from one network and then, based on the packet's physical address, forwards it to the other network or discards it.

BROADCAST
This is a system which distributes a copy of specified packets to all hosts on a network. You can imagine that if some of the computers on the Internet started to broadcast then the Internet would grind to a halt, so if a computer tries this trick, routers in the Net stop the broadcast from going any further.

BROWSER
A program which allows your computer to download and display documents from the World Wide Web. Some browsers can also FTP and read Usenet postings. Popular browsers include Mosaic and Netscape.

C

CCITT
International Consultative Committee for Telegraphy and Telephony – the organisation, now evolved into the ITU-T, which sets worldwide telecommunications standards.

CIX
Commercial Internet Exchange is the network of the major commercial Internet providers which was originally established so that commercial Internet traffic could bypass the NSFnet. It's responsible for a large part of the Internet's backbone.

CIX
Compulink Information Exchange is a major UK BBS. You can address mail to CIX users from the Internet by using the address username@compulink.cix.co.uk.

CLIENT
This is a generic term referring to programs which work across networks.

COMPUSERVE
A large international BBS with partial access to the Internet – you can send email to CompuServe users by relacing the comma in their address with a full stop and addressing to the host compuserve.com, eg 7110.12345@compuserve.com

CYBERIA
The UK's first cybercafé where you can mix connectivity with coffee.

D

DIALUP
This means using telephone lines or ISDN networks to connect your computer to a service. The opposite of a permanent connection, it means you have to make a phone call to get online.

DNS
Domain Name Service – this is a system at your access provider which translates between Internet names in the format www.emap.com to the dotted decimal notation format.

DEFAULT GATEWAY
When you configure your software to access the Internet the default gateway is the IP address that's required. This is the IP address of a router at your IAP which your software will send packets to, so it can send them onto the right hosts. If you find that you can access all of the hosts at your IAP but nothing else in the world, then it's probably because the default gateway is set wrongly in your software, or because the router that forms the gateway is not working.

DEMON
A UK-based Internet access provider.

DOMAIN
The part of the Internet name that specifies your computer's location in the world is written as a series of names separated by full stops. The domain name at **INTERNET** is computing.emap.co.uk. This shows we're in the computing section of Emap which is a company in the UK.

DOTTED-DECIMAL NOTATION
IP addresses are 32 bits long and pretty unmemorable in that form, so they are translated into decimal, split into four sections and divided by full stops, eg 158.152.61.100. This is the standard form of nomenclature used for all IP addresses. When you sign up with an Internet access provider you'll be allocated an IP address for your computer.

E

EMAIL ADDRESS
This is a unique address within the Internet which lets people send mail to you. It comprises your name, the @ symbol and your domain name, so the address neile@computing.emap.co.uk is the address for the user Neil Ellul at the domain computing.emap.co.uk

ETHERNET
One of the most popular lan networking systems, capable of supporting data transfer at 10 Mbits per second. Most of the lans on the Internet are based on Ethernet.

EUNET
A UK-based Internet access provider.

F

FAQ
Frequently Asked Questions – the role of the FAQ document, which is commonly found in newsgroups, is to collate answers to the questions asked most commonly by newcomers. It prevents the same old questions being asked in newsgroups week after week. There's a comprehensive repository of FAQs available by FTP from ftp://src.doc.ic.ac.uk/usenet/news-info/

FLAME
An inflammatory, often offensive message. If you read something that gets your goat and you've just got to reply, then hang fire for half an hour; immediate replies often make the most unreasonable flames.

FIDONET
A long-established network of BBSs.

FINGER
A way of eliciting an automatic response – set by the site owner – from a site on the Internet. It's often written as an extended signature file.

FIREWALL
A security system designed to restrict access to the computers on a lan from

The glossary

the outside world, which usually means the Internet.

FTP
File Transfer Protocol is the basic way of transferring files across the Internet. If you want to get files from another computer then you'll need an FTP client (available as shareware or there's one built into most WWW browsers). See Anonymous FTP for more details.

G

GATEWAY
This is a device that translates data between two different systems on a network. Gateways are usually shared between many users on a lan and give access to central resources.

GIF
A way of compressing and storing images used extensively on the Net.

GOPHER
A search facility developed to make the Internet easier to use, Gopher employs a menu-driven front-end to read documents and download files stored on hosts. To use it you need a Gopher client running on your computer and the host must be running a Gopher server application. Most Web browsers now incorporate a Gopher client.

H

HTML
HyperText Mark-up Language – this is the language used to create documents on the World Wide Web.

HTTP
Hypertext Transfer Protocol – the standard way of transferring HTML-encoded documents between Web servers and clients (browsers). A computer acting as a Web server is often referred to as an HTTP server.

HOST
The computer you contact to get on the Internet – each host has an IP address and a fully qualified Internet name. Mymac.computing.emap.co.uk is the host name for the computer called mymac in the domain computing.emap.co.uk

HOST FILE
This is a file on your computer that defines the relationships between domain names and IP addresses. It's used when you have no access to a domain name server so that you can still refer to a host by its name rather than its numerical address.

I

IAB
The Internet Activities Board – the technical body that oversees the development of the communications and networking protocols used on the Internet. It consists of representatives from all manner of institutions, including equipment manufacturers.

IEE
The Institute of Electrical Engineers – a UK-based professional and standards body.

IEEE
The Institute of Electrical and Electronics Engineers – an important US-based professional and standards body.

IESG
The Internet Engineering Steering Group – the executive committee of the IETF.

IETF
Of the task forces of the IAB the Internet Engineering Task Force is the most important technically, and is charged with developing technical solutions to overcome any problems.

INTERNET
If not capitalised, this generally means a collection of networks and is really a lazy way of saying 'internetwork'.

INTERNET
With the first letter capitalised it means the worldwide Internet (often shortened to the Net).

IP
Internet Protocol is one layer of the set of protocols that devices on the Internet use to communicate with each other. It defines how packets of data get from their source to their intended destination. You'll often see it written in conjunction with the other major protocol – Transmission Control Protocol – as TCP/IP.

IP ADDRESS
Every computer connected to the Internet has to have an address. Confusingly, this is expressed in two ways: as an IP address in dotted decimal notation, eg 158.152.34.2; or by the more memorable machine and domain name, eg neile@computing.emap.co.uk. Within the mechanics of the Internet itself the dotted decimal version, ie the IP address, is the format which is used.

IPNG
The Internet Protocol New Generation – it's not that IP doesn't work, but the current 32-bit IP addressing scheme will soon be unable to cope with the increasing number of computers on the Net. IPNG consists of 128 bits so it will allow for a quadrillion addresses on a trillion networks. However, it's not yet fully defined and is still the subject of IETF working parties.

IPX
Internetwork Packet Exchange – a network protocol invented by Novell that's used on NetWare lans. It performs the same function as IP.

IRC
Internet Relay Chat – often described as CB for the Internet – is a system where you can chat (ie type) to other users in real time. You need an IRC client on your computer and your access provider must have a server that supports the protocols used.

ISDN
An Integrated Services Digital Network allows you to send digital information at speeds of 128Kb over the normal telephone network. Just like a telephone call, you dial the number of the computer you're calling and establish a digital connection. It takes only milliseconds and the cost is the same as a normal telephone call.

ISO
The International Organisation for Standardisation – an international standards body that ratifies standards produced by other organisations such as the IEEE and ITU-T.

ISP
An Internet service provider, which is the same as an access provider.

ITU-T
An international standards organisation that develops and ratifies all the world's telecommunications standards. It contains representatives from all the major PTTs.

J

JPEG
This is a way of compressing still images and video which is widely used on the Internet.

K

KERMIT
A popular error-correcting file transfer protocol, primarily used on BBSs.

KILL FILE
A file in which you can specify the email addresses of users whose mail and posts you don't want to read. Your newsreader will look at the names in the file and delete messages from those users you've specified.

KILOSTREAM
This is the name given by BT to 64Kb leased lines for carrying data. A 64Kbit leased line can carry the equivalent of four normal modem transmissions. Your Internet access provider will usually employ 64Kbit lines between its various POPs and its central site.

L

LAN
Local area network – a group of computers connected together to form a network. Lans can be very large and spread across a number of buildings.

LEASED LINE
A dedicated telecommunications connection between two points, usually provided by a PTT.

M

MAIL GATEWAY
This is a computer that translates mail between different mail systems. It works out where the important bits (eg subject, author, recipient) are in the message and translates the lot into the format required by the other system. There are mail gateways on the Internet between lan mail systems (such as Lotus' cc:Mail) and the Internet, which uses SMTP, and also at your access provider, where the mail gateway stores mail for you and sends it to you when you connect.

MIRROR
Some anonymous FTP sites are so heavily used that their entire contents are copied to, and made available from, other sites, to relieve the load. These are known as mirror sites.

MODEM
This stands for MOdulator / DEModulator – a device that translates the digital information your computer produces into analogue signals that can be sent down normal telephone lines. Modem specifications primarily refer to the speed at which they can communicate, generally given in terms of the V-series.

MULTICAST
A special type of broadcast destined for a subset of hosts on a network.

MOSAIC
Mosaic, the first browser, was produced by the National Centre for Supercomputing in America (NCSA), and really started the growth in popularity of the Web.

N

NETSCAPE
A second generation Web browser.

NAME RESOLUTION
The process undertaken by DNS in turning text Internet names, eg neile@computing.emap.co.uk, into IP addresses.

NAME SERVER
A host that provides a DNS service to translate between hosts' names and their IP addresses.

NIC
Network Interface Card – the card inside your PC which allows it to talk to a specific network.

NIC
This stands for Network Information Centre. In the early days of the Internet this was the central site which maintained IP addresses and domain names. Nowadays there are NICs scattered throughout the world.

NMS
Network Management Station – a computer which monitors how all the nodes on the network are performing.

NOC
Usually located at your access provider, the people in the Network Operations Centre monitor the network for faults, respond to user support calls and rectify problems.

NODE
Any device connected to the Internet – most are hosts but 'node' also encompasses bridges, routers, gateways and the like. Anything with an IP address is a node.

NEWSGROUP
These are the Internet's bulletin boards. There are (at the latest count) around 14,000 groups covering every subject under the sun. Most IAPs and organisations have a newsgroup server which periodically receives a feed of news from another newsgroup server on the network – it takes all new messages from the feed and then adds the messages which have been posted by its own users. The feed then goes onto another newsgroup server. The collective name for these newsgroup servers is the Usenet. To access the newsgroups stored on your access provider's newsgroup server you need a newsreader program.

NNTP
Network News Transfer Protocol – the protocol used between news servers to exchange articles. Also the protocol used between a newsreader program and a newsgroup server.

O

OSI
Open Systems Interconnect – an international standard designed to facilitate communications between computers of all types and makes.

The glossary

P

PACKET
A bundle of data that traverses a network. On the Internet a packet is formed by the IP part of the TCP/IP protocol. It must contain the source address (where the packet's come from), the destination address (where it's going), a packet identifier (so that the receiving computer can tell what sort of packet it is) and some data.

PING
This is a program that uses the TCP/IP protocol to send a message to a host's network interface to see if it exists. It's useful for network troubleshooting.

POP
Point of Presence – a local Internet access point set up by an access provider to reduce the telephone charges for people dialing in.

POP3
An email transfer protocol.

PORT
The term used to define different points of entry used for different types of data going into a single computer, eg port number 23 may be specified for Telnet access and port 21 for FTP. Nowadays most software determines port numbers automatically. Port is also the term for a physical input/output socket on any computer.

PPP
Point to Point Protocol – a protocol that allows IP connections between two devices over both synchronous and asynchronous communications circuits. It's either used in router-to-router or host-to-network communications. If you dial up your Internet access provider you'll most likely be using a PPP connection or the protocol it superseded, SLIP.

PROTOCOL
Essentially an agreed way for two devices on a network to communicate with each other, it defines many issues including packet format, how it is verified, how routers deal with it, and what to do if a packet goes missing.

PSTN
The Public Switched Telephone Network – more commonly known as the telephone system.

PTT
Poste de Telephony and Telegraph – the internationally accepted acronym referring to the operators of public telephone systems around the world, eg BT and Mercury.

R

REPEATER
A dumb piece of internetworking equipment, this merely amplifies the signal it gets from a network and re-transmits it to all the other pieces of network that are connected to it.

ROUTER
A clever piece of internetworking equipment, routers connect all the networks that comprise the Internet together and exchange packets between them. They can also work out the quickest and cheapest way to get a packet to its destination.

RFC
Request for Comment – a document, usually put out by one of the working groups of the IETF, to elicit responses from other interested parties or to formally define a technology. There's a comprehensive catalogue of all RFCs available by FTP at ftp://src.doc.ic.ak.uk/rfc

S

SERVER
A central computer which makes services and data available.

SHELL
A 'base level' software program such as MS-DOS, designed to allow a person to interact with a computer. However, in the Internet world it most commonly refers to the user/machine interface program on Unix machines.

SIGNATURE FILE
A message – usually intended to be humorous – which you can add automatically to the end of your email messages or newsgroup posts.

SLIP
Serial Line Internet Protocol – a protocol that allows devices to use IP over asynchronous and synchronous communications links. It is now being superseded by PPP.

SMILIES
Punctuation that you see in newsgroup posts and emails which, viewed sideways-on, appends human concepts to your messages, eg happiness/irony :-) or sadness :-(or astonishment :-o

SMTP
Simple Mail Transfer Protocol – the Internet protocol for transferring mail.

SPAM
Slang for posting the same message to multiple newsgroups – frowned upon.

SYNCHRONOUS
A description of how two communications devices agree on how they'll exchange data. Asynchronous communication is more efficient.

T

T1
Not the famed Arnie movie but the way Americans define the speed of a particular type of leased line. You come across this when an access provider claims to have a T1 link to the States. What it means is that it has a 1.5 Mbit connection, which is the equivalent of 25 64kbit connections or Kilostreams. Think of this in terms of how many normal modem conversations the link will support; your normal modem transfers data at 14,400bps so you'll get four of them on a 64,000 bps link and 100 on a T1 link.

TCP
Transmission Control Protocol – the major protocol in the suite of Internet protocols. It takes the information to be transmitted by the application and passes it to the IP to be transmitted. Where IP is responsible for getting a packet from one host to another, TCP is responsible for ensuring that messages get from one host to another and that the messages are understood.

TELNET
This is the protocol that allows you to connect your computer over the Internet to a host computer and look like you're a dumb terminal to that host. It once made up the majority of Internet traffic but has been superseded by the WWW. However, there are still some good Telnet sites; try NASA. Along with Telnet you need terminal emulator software (either VT or TN3270) which turns your computer into an (almost) blank screen.

TFTP
Trivial File Transfer Protocol – a cut-down version of FTP, used when a host needs to automatically download a file from another host on the network.

TOKEN RING
A lan networking system developed by IBM which is based on a ring topology. Token ring networks can transfer data at 16Mb and are constructed using both shielded and unshielded twisted pair cables.

TRANSCEIVER
Physical devices that connect a host to a lan, transceivers are often built into the network interface card or they may be an external unit you plug into a socket on a network interface.

TRUMPET
A Winsock-compatible Windows program that provides a dialup connection to the Internet based on Serial Line Internet Protocol (SLIP).

TERMINATOR
Back to Arnie again, only this time the terminator is the little cap that has to be physically stuck onto the end of a thick or thin Ethernet network to make sure the packets don't fall off the end. Terminators look like little silver top-hats and without them your network simply won't go.

U

UUCP
Unix-to-Unix Copy Program – this allows one Unix-based host to copy files from (or to) another Unix-based host. This program was originally the way the newsgroup feeds were propagated throughout the Internet.

UNIX
A host operating system developed by AT&T that allows multiple clients to access the resources of one host simultaneously. Many of the news, mail, Web and name servers on the Internet use this operating system.

V

VERONICA
This stands for Very Easy Rodent-Oriented Net-wide Index to Computerized Archives – it is essentially a catalogue of gopher sites in the world which allows you to search for menu items that contain a keyword and which then builds a menu of those sites. You can access Veronica at gopher://gopher.scs.unr.edu

V-SERIES
A series of mainly modem-orientated specifications, as issued by the CCITT, which governs the speed of modems and whether or not they offer compression of data.

W

WAIS
Wide Area Information Server – an information retrieval system developed by Apple, Thinking-Machines and Dow Jones. It allows a client to perform keyword searches simultaneously on multiple online databases.

WAN
Wide Area Network – a network of computers that involves communications links between several networks. A wan usually consists of a number of interconnected lans.

WINSOCK
A standard interface within the Windows operating system which sits between applications and the networking protocols. If you want to access the Internet from within Windows you'll need a program called Winsock.DLL loaded into your Windows environment. However, it's one of the most common causes of problems as not all software works with the same version of Winsock.

WWW
World Wide Web – also known as the Web – this is the generic name given to all of the hypertext-based HTML documents on the Internet that have links to each other and are accessible from HTTP or Web servers.

X

X.25
A CCITT-defined standard for communications devices to access the public packet-switched network, which is like a digital postal network. An X.25 device formats data into a packet and the X.25 network takes care of delivering that packet to a specified destination address. The largest X.25 network in the UK is used by the government and all those National Lottery terminals.

X.400
An open standard for electronic mail systems defined by the ITU-T and the OSI standard.

X.500
The specification for directory services for X.400.

X-MODEM
A protocol used to transfer files between two computers, usually with modems.

Y

Y-MODEM
Another protocol used to transfer files between two computers, again primarily through modems.

Z

Z-MODEM
Yet another protocol used to transfer files between two computers, yet again, primarily through modems.

ZOIKS!
Can't find a definition? Then you could try the largest online glossary of computer terms on the Web, which is at http://wombat.doc.ic.ac.uk

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Offer applies only in UK.

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The Access providers guide

Don't sign up for Internet access services until you've consulted the comprehensive buyers' index which follows

Once you have made the decision to get connected to the Internet, you then have to decide how you want to go about it. How To Get Connected (see page 40) should give you the basics, but one of your priorities is to work out how much you are willing to pay and what you want to do with your connection.

To help with that, here is our Access Providers Guide. It lists all the UK's Internet providers, together with their locations and the services they offer.

To make it even easier to use, we've split the information into three separate sections.

The first section – Who They Are – gives you contact details for each of the providers. We'll be adding to this list each month as new providers appear. If you already have access but are looking to change providers, the WWW addresses are a useful source of additional information.

The Where They Are chart lets you see at-a-glance which providers have a Point of Presence (POP) near you. This is obviously an important factor, as you should only be making a local telephone call from your premises to the Internet. In the UK particularly, users justifiably worry about running up enormous telephone bills, so make sure you are paying the minimum possible.

Then What They Offer gives a breakdown of the individual services offered. Many providers have more than one service, so we have tried to list as many of the variations as possible.

Make sure you talk to several providers and find out what they recommend for your situation before parting with any money.

As a final step, go through the checklist at the foot of the next two pages.

The information is divided into the following columns:

Company name: This is the trading name of the company that runs the Internet access service, not the name of the service that company supplies, although sometimes this is the same thing.

Telephone number: The number each company prefers to use for sales enquiries.

Email address: The address each company prefers to use for sales enquiries.

Web page: If the service provider has a page on the World Wide Web, this is where to find it.

Points of Presence: This chart is crucial if you want to keep the cost of your access to a minimum. It shows the places in the UK where providers offer local access. Some charge for their more remote POPs, so check if you have to to pay an excess.

Service name: This is the actual service name, which often differs from the company name.

Start-up cost: This is a one-off charge paid when a user subscribes to the service.

Ongoing costs: This is the monthly or yearly charge paid for subscription to the service. We have tried to put both where possible – it is often cheaper to pay annually.

Type of connection: This is an important entry, because it shows which providers are offering direct Internet access (IP), those that are offering bulletin board services (BBS), and those offering email and/or Usenet only (UUCP). Most companies supplying UUCP offer an upgrade path to full IP connection.

Access medium: This indicates which access methods are supported by the particular service – dialup modem, ISDN, leased line or X.25.

Aimed at: This entry indicates at whom the company is aiming a particular service – home users (h), small businesses (s) or large corporates (l).

Services available: This is largely irrelevant for full IP connection as the applications themselves are all available irrespective of the provider. For shell or BBS accounts, though, each service is offered at the discretion of the provider.

Details of service: Additional information you may find helpful when deciding which provider to talk to first.

Access providers should send up-to-date information about their services to: providers@computing.emap.co.uk

CHOOSING YOUR ADDRESS

One of the most difficult decisions you will have to make at the outset is what you would like your email address to be. The problem is that until you have used email for a while, you won't know what constitutes a good address. It's a bit like having to choose clothes for a wedding without having tried them on!

Once you have chosen an address it is very difficult to change it without incurring cost. Some providers will even charge you for changing your mind as soon as your first choice has been entered into their database.

A good service provider will help you make the decision when you sign up, but be sure to make a list of possibilities for your preferred address before you give any other details.

It is worth noting that the address you pick will often be the only indication that other users get of who you are.

The most important point to bear in mind is that it represents you or your company. Keep it short and, above all, memorable.

For instance, if your name is Nick Dudley and you work at Oakland Elevators, you might choose the address dudley@oakland.co.uk, or maybe nickd@oakele.co.uk

Many people use the convention of splitting up words before the @ symbol with full stops, ie Nick.Dudley@oakland.co.uk. Although this is quite common, it makes the address too long and prone to error. Any sort of delimiter, like a full stop, a dash or an underscore, should be avoided if at all possible, as other users invariably forget it, with the result that your mail bounces.

The last part of the address (ie .co.uk) will probably be set by the provider, unless you pay extra, so it is the front elements you need to consider. Also, with some services you do not have to specify the naming information before the @ symbol (ie dudley), as this will depend on the routing within your building. However, if you decide at a later date that your domain name (oakland.co.uk) is inappropriate, it will cost money to change it.

One final point – when giving out your email address make sure you spell it out letter by letter. It really does defeat the object of instant, time-independent communications, if people have to keep telephoning you to check your email address.

Who they are – access providers' contact details

Name	Telephone no.	Email address	Web page (prefix with http://)
Almac	01324 666336	alastair.mcintyre@almac.co.uk	www.almac.co.uk
Atlas	0171 312 0400	info@atlas.co.uk	www.atlas.co.uk
BBC Networking Club	0181 576 7799	info@bbcnc.org.uk	www.bbcnc.org.uk
BTnet	01442 295828	adrian edwards@bt.net	www.bt.net
Byson Computers	01635 869480	Ian@Byson.demon.co.uk	www.hiway.co.uk/~byson/
Celtic Internet Services	01633 815550	enquiries@celtic.co.uk	–
CityScape Internet Services Ltd	01223 566950	sales@cityscape.co.uk	www.cityscape.uk
CIX	01492 641961	cixadmin@cix.compulink.co.uk	www.compulink.co.uk
Compuserve	0800 289378	70006.101@compuserve.com	–
Delphi Internet	0171 757 7080	ukservice@delphi.com	www.delpi.com
Demon Internet	0181 371 1234	sales@demon.net	www.demon.co.uk
Dungeon Network Systems	01366 383047	info@dungeon.com	www.dungeon.com/
Easynet	0171 209 0990	admin@easynet.co.uk	www.easynet.co.uk
ElectricMail	01223 420193	info@elmail.co.uk	www.elmail.co.uk
EUnet GB	01227 266466	sales@Britain.EU.net	www.britain.eu.net
ExNet Systems	0181 244 0077	info@exnet.co.uk	–
Foremost Training	0141 248 6377	donald@scotnet.co.uk	–
Frontier Internet Services	0171 242 3383	infor@ftech.co.uk	www.ftech.co.uk
Genesis Project	01232 231622	sales@gpl.com	www.gpl.net
Greenet	0171 713 1941	support@gn.apc.org	–
Leaf Distribution	01256 707777	sales@leaf.co.uk	–
Lunatech Research	01734 791900	infor@luna.co.uk	www.luna.co.uk
MacLine	0181 401 1111	orders@macline.co.uk	www.athena.atlas.co.uk/macline.htm
Manx Computer Bureau	01624 623841	–	–
Mari Computer Systems	0191 402 0191	sjt@mari.co.uk	–
MKBBS	01908 345780	sysop@mkbbs.co.uk	–
NetKonect	0171 345 7777	infor@netkonect.co.uk	–
On-Line Entertainment	0181 558 6114	mike@mail.on-line.co.uk	–
Paragon Software	01635 861111	paragon@parasoft.co.uk	–
Pavilion Internet plc	01273 607072	info@pavilion.co.uk	www.pavilion.co.uk
PC User Group	0181 863 1191	info@win-uk.net	www.ibmpcug.co.uk
Pipex	01223 250120	sales@pipex.net	www.ws.pipex.com
Poptel	0171 249 2948	admin&mcr1.poptel.org.uk	www.poptel.org.uk
RedNet	01494 513 333	info@red.net	www.rednet.co.uk
Research Machines	01235 826000	tclark@rmplc.co.uk	www.rmplc.co.uk
The Direct Connection	0181 317 0100	helpdesk@dircon.co.uk	www.dircon.co.uk/index.html
The Internet in Nottingham	0115 956 2222	info@innotts.co.uk	www.innotts.co.uk
Total Connectivity Providers	01703 393392	sales@tcp.co.uk	www.tcp.co.uk
U-NET	01925 633144	hi@u-net.com	www.u-net.com/
Vossnet	01753 737800	info@vossnet.co.uk	www.vossnet.co.uk
Zynet	01392 426160	zynet@zynet.co.uk	www.zynet.co.uk/

Warning – do make sure you've asked the following

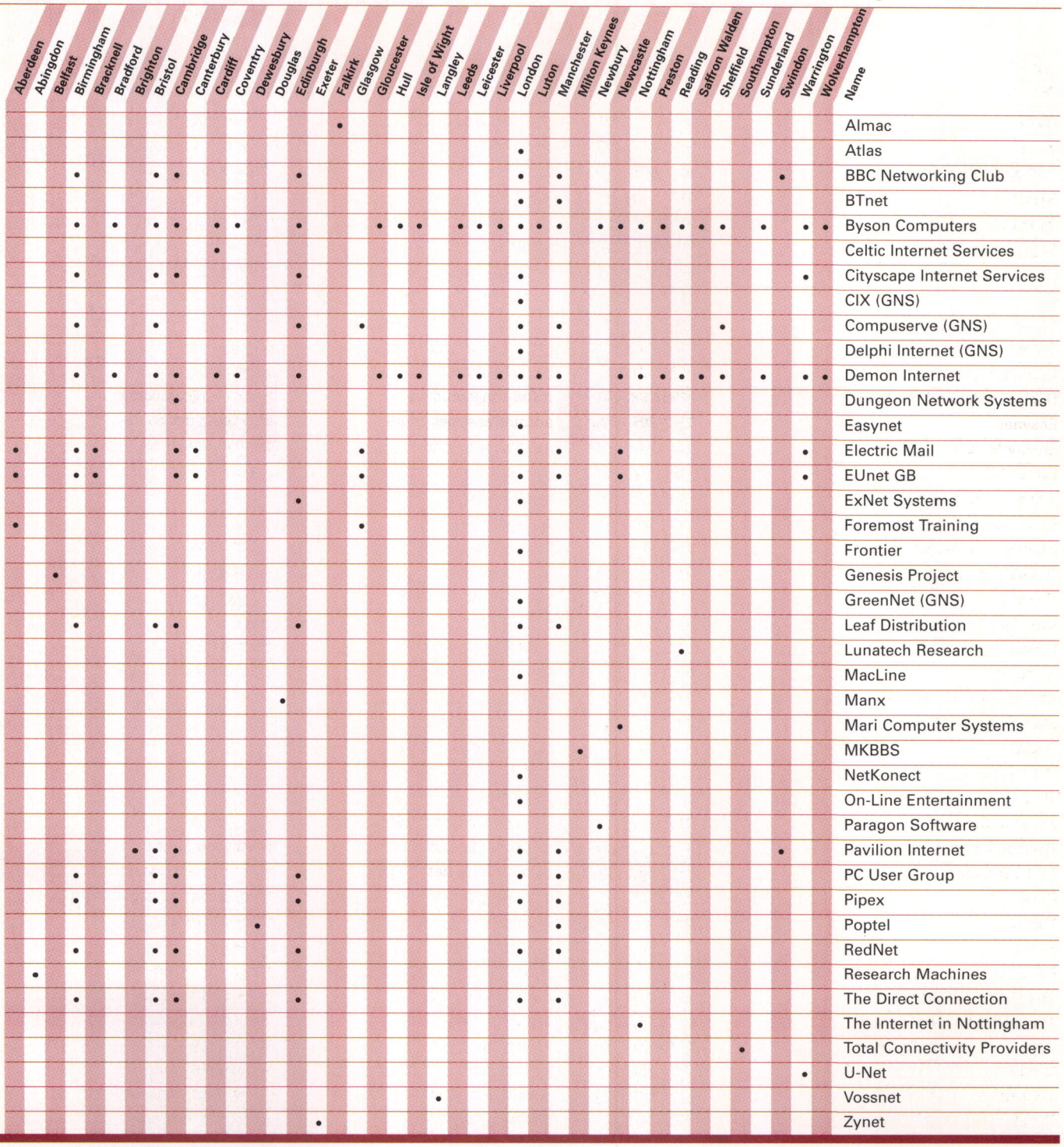
1 Can you use the Internet for the price of a local call?

2 Does the provider offer 24-hour support and technical assistance?

3 Is the price inclusive or exclusive of VAT?

4 Are you paying a fixed charge each month or for usage based on time?

Where they are – Points of Presence near you



questions before you part with any hard-earned cash

5 Can the provider support your specific modem?

6 Email-only or full access? Does the service offer what you need?

7 Do you know what you want your email address to be?

8 Will the provider supply software for your particular computer?

What they offer – service details and pricing

Name	Service name	Start-up cost	Monthly on-going cost	Yearly on-going cost
Almac	Gold service	none	£7.99 per month inc VAT	£75 pa ex VAT
–	PPP Service	none	£7.99 per month inc VAT	£75 pa ex VAT
Atlas Internet	Atlas Internet	£25	£12	£120
–	Atlas Internet	£25	£12	£120
BBC Networking Club	BBC Networking Club	£25	£12	£144
BTnet	BTnet Premium Dial	£499	£437.50 per quarter	£1750
–	BTnet ISDN	£499	£750 per quarter	£3000
Byson Computers	Standard Dial Up	£12.50	£10	£120
Celtic Internet Services	Celtic Internet Services	£20	£10	£120
CityScape Internet Services	CityScape IP-GOLD	£50	£15	£180
–	UUCP Gateways	n/a	n/a	£1000
Compulink Information eXchange (CIX)	CIX Ltd	£25	£6.25	£75
Compuserve	Compuserve	£26.45	£8	£96
Delphi Internet	Delphi	none	£1.80 per hour, 1st month free	–
Demon Internet	Leased Line Connection	£1000	64k £500 to £600 per month	£6000-7200
–	Network Reserved Dial Up	£750	£10	£100
–	Standard Dial Up	£12.50	£10	£100
Dungeon Network Systems	Standard SLIP	none	£10	£100
Easynet	Easynet	£25	£9.90	£118.80
ElectricMail	cc:Mail to Internet Connection	£1495	–	£380
–	MS Mail to Internet Connection	£1995	–	£380
–	MHS Mail to Internet Connection	£1295	–	£380
–	IP-Start	£200	£250 per quarter	£1000
–	IP-Dial	£300	£450 per quarter	£1800
–	IP-Dial ISDN	£300	£750 per quarter	£3000
–	IP-Line	£1000	£1250 per quarter	£5000
EUnet GB	EmailLink	none	–	£380
–	EmailLink + News	none	–	£580
–	IP-Dial	£300	–	£1800
–	IP-ISDN	£300	–	£3000
–	IP-Line 64k/128k/256k	£1000/2000	–	£5000/85000
–	IP-Line X25	£1000	–	£5000
ExNet Systems	Basic	none	£7per month, 1st month free	–
–	Telnet+FTP supplement	none	–	£120
–	UUCP service	none	£9	£84
–	Full Feed Service	none	£25	£300
–	Live IP	none	£20	£240
–	Full Live IP	none		£1000
Foremost Training	Scotnet	none	£25	£300
Frontier Internet Services	Dialup Internet access	£25	£10	£120
–	Dialup and Web home page	£25	£13.50	£162
–	Personal Web homepage	£25	n/a	£50
–	Small company Web	£25	n/a	£250
–	Web advertising space	£25	n/a	£1000
–	FTP Area	£25	n/a	£250
–	Standard Dialup	£12.50	£10	£120

Type of connection	Modem	ISDN	Leased line	X.25	Aimed at	Email	FTP	Usenet news	Telnet	Worldwide web	Gopher	Internet relay chat	Details of service
IP	✔	✔	×	×	h/s/l	✔	✔	✔	✔	✔	✔	✔	Business is focused on 'networking Scotland'
IP	✔	×	×	×	h/s/l	✔	✔	✔	✔	✔	✔	✔	Business is focused on 'networking Scotland'
IP	✔	✔	×	×	h/s/b	✔	✔	✔	✔	✔	✔	✔	Access available up to 28.8kbps
IP	✔	✔	×	×	h/s/l	✔	✔	✔	✔	✔	✔	✔	Access available up to 28.8kbps
IP	✔	✔	✔	×	h/s/l	✔	✔	✔	✔	✔	✔	✔	BBC-related information, transcripts, TV listings etc
IP	✔	✔	✔	×	h/s/l	✔	✔	✔	✔	✔	✔	✔	Public Telephone network (via dedicated port – up to 14.4kbps)
IP	✔	✔	✔	×	h/s/l	✔	✔	✔	✔	✔	✔	✔	Optional maintained router enabling connection to Internet
IP	✔	×	×	×	h/s	✔	✔	✔	✔	✔	✔	✔	The Internet Starter Kit, including Demon connection and Chameleon, costs £149
IP	✔	×	×	×	h/s/l	✔	✔	✔	✔	✔	✔	×	Full business support and consultancy
IP	✔	×	×	×	l/s	✔	✔	✔	✔	✔	✔	✔	Simple to use software, quality support; 512k WWW/FTP server space free
UUCP	✔	×	×	×	l/s	✔	×	✔	×	×	×	×	Best cost-effective office email systems (1st Class and MHS services)
BBS	✔	✔	×	✔	h/s/l	✔	✔	✔	✔	✔	✔	✔	Europe's premier conferencing system with Internet access
BBS	✔	×	×	×	h/s/l	✔	✔	✔	×	×	×	×	FTP, WWW and Telnet are in development
BBS	✔	×	✔	×	h/s/l	✔	✔	✔	✔	×	✔	×	First dedicated Internet for education
IP	×	×	✔	×	s/l	✔	✔	✔	✔	✔	✔	✔	Includes BT leased line cost, £500 pm for 0171 area only
IP	✔	×	×	×	s/l	✔	✔	✔	✔	✔	✔	✔	Lan access to the Internet
IP	✔	×	×	×	s/l	✔	✔	✔	✔	✔	✔	✔	Powerful connection including unlimited mail addresses
IP	✔	×	×	×	h/s	✔	✔	✔	✔	✔	×	×	Dedicated dialup is available from £1500 per year
IP	✔	×	✔	×	h/s/l	✔	✔	✔	✔	✔	✔	✔	Owner of the Cyberia cybercafé
IP	✔	×	×	×	s/l	✔	×	×	×	×	×	×	The start-up cost includes the first year's subscription
IP	✔	×	×	×	s/l	✔	×	×	×	×	×	×	The start-up cost includes the first year's subscription
IP	✔	×	×	×	s/l	✔	×	×	×	×	×	×	The start-up cost includes the first year's subscription
IP	✔	×	×	×	s/l	✔	×	×	×	×	×	×	Modem service for five users
IP	✔	×	×	×	s/l	✔	×	×	×	×	×	×	Modem service for unlimited users
IP	×	✔	×	×	s/l	✔	×	×	×	×	×	×	One-way ISDN service
IP	×	×	✔	✔	s/l	✔	×	×	×	×	×	×	Custom-built email gateways available
UUCP	✔	×	×	×	s/l	✔	×	×	×	×	✔	×	EUnet is part of a 32-country pan-European internet
UUCP	✔	×	×	✔	s/l	✔	×	✔	×	×	×	×	Nine UK nodes and over 100 European nodes
IP	✔	×	×	×	s/l	✔	✔	✔	✔	✔	✔	✔	On-site hardware options also available
IP	×	✔	×	×	s/l	✔	✔	✔	✔	✔	✔	✔	One-way ISDN service
IP	×	×	✔	×	s/l	✔	✔	✔	✔	✔	✔	✔	Prices inclusive of leased line and on-site router
IP	×	×	×	×	s/l	✔	✔	✔	✔	✔	✔	✔	On-site hardware options also available
BBS	✔	×	×	×	h/s/l	✔	×	✔	×	×	×	×	Fair usage policy applies, each user only two hours a day
BBS	✔	×	×	×	h/s/l	✔	✔	✔	✔	×	×	×	Includes 10Mb of FTP per day
IP	✔	×	×	×	h/s/l	✔	×	✔	×	×	×	×	Two-hour usage limit
UUCP	✔	×	×	×	h/s/l	✔	×	✔	×	×	×	×	No usage limit and domain name
IP	✔	✔	×	×	h/s/l	✔	✔	✔	✔	✔	✔	✔	Two-hour usage limit
IP	✔	✔	×	×	h/s/l	✔	✔	✔	✔	✔	✔	✔	No time limit
IP	✔	×	✔	✔	h/s/l	✔	✔	✔	✔	✔	×	×	Glasgow-based Internet provider
IP	✔	✔	×	×	h/s	✔	✔	✔	×	✔	×	×	Basic Internet services
IP	✔	✔	×	×	h/s	✔	✔	✔	×	✔	×	×	Basic service plus your own Web site
IP	✔	✔	×	×	h/s	✔	✔	✔	×	✔	×	×	Small Web site only (no dialup)
IP	✔	✔	×	×	h/s	✔	✔	✔	×	✔	×	×	Up to 15Mb Web pages
IP	✔	✔	×	×	h/s	✔	✔	✔	×	✔	×	×	100 Mb of Web pages for advertising
IP	✔	✔	×	×	h/s	✔	✔	✔	×	✔	×	×	15 Mb of space on FTP server
IP/PPP	✔	✔	✔	×	h/s/l/	✔	✔	✔	✔	✔	✔	✔	Range of connections for home users – large businesses in Northern Ireland

What they offer – service details and pricing continued

Name	Service name	Start-up cost	Monthly on-going cost	Yearly on-going cost
GreenNet	GreenNet	£30	£15	£180
Leaf Distribution	Servelan	£15	£12.50	£150
Lunatech Research	Luna	£30	£40 per quarter	£120
MacLine	MacLine	£25	£12	£120
–	MacLine Internet Gateway	£25	£12	£120
Manx Computer Bureau	Mannet – private leased line	£750	n/a	£3600
–	Mannet – dialup	£50	n/a	£120
MARI	Email Link	none	–	£380
–	Mail Gateways to Internet Connect	£POA	–	£POA
–	Home page and security services	£POA	–	£POA
–	Email Link and News	none	–	£580
–	IP-Dial	£300	–	£1800
–	IP-ISDN	£300	–	£3000
–	IP-Line 64k	£1000	–	£5000
–	IP-Line X25	£1000	–	£5000
MKBBS	Email	none	n/a	£15
NetKonect	NetKonect	none	£10	£120
On-Line Entertainment	On-Line	none	£5	£60
Paragon Software	MessageXchange	£100	£11.50	£138
Pavilion Internet	Pavilion Internet	£17.75 inc VAT	£14.75 per month inc VAT	£177
–	Web space rental	£50	£10	n/a
PC User Group	WinNEt	none	£6.75	£81
–	Connect	£10.00	£7.25	£87
Pipex	Caller	£250	–	£1200
–	Worldwide	£1000	–	£9400
–	Pipex Dial	£50	–	£180
–	Worldwide Plus	£1800	–	£11500
–	Caller Plus	£1000	–	£2500
–	ISDN Plus	£1000	–	£4000
–	Worldstore Services	–	–	From £400 – 5Mb
–	Worldweb Services	–	–	From £800 – 5Mb
–	PAD/Telnet	–	–	£1000
–	Installation Consultancy	£1000	–	£1000
–	X.400 Messaging	–	–	£2000
Poptel	Poptel	£25	£10	£120
RedNet	onLine	£25.00	£15	£221
Research Machines	Internet for Learning	£25	£10	£120
The Direct Connection	The Direct Connection	£7.50	from £10	£120
The Internet in Nottingham	The Internet in Nottingham	£17.63 inc VAT	£14.69 inc VAT	£176.28
Total Connectivity Providers	Freestyle	£7	£10	£114
–	Express Ultra	£7	£20	£140
–	Twilight	£7	£8.50	£96.90
U-Net	U-Net	£12	£12	£100
Vossnet plc	Voss Net On-Line	n/a	£10	£99
Zynet	Zynet	£20	£12	£144

Type of connection	Modem	ISDN	Leased line	X.25	Aimed at	Email	FTP	Usenet news	Telnet	Worldwide web	Gopher	Internet relay chat	Details of service
IP/BBS	✔	✔	×	✔	h/s/l/	✔	✔	✔	✔	×	✔	✔	Specialises in peace, human rights and environmental issues
IP	✔	✔	✔	×	h/s	✔	✔	✔	✔	✔	✔	×	Software and modem bundles availble – complete package £350
IP	✔	×	×	×	h/s	✔	✔	✔	✔	✔	✔	✔	Quality service for local homeworkers in the Reading area
IP	✔	✔	×	×	h/s/b	✔	✔	✔	✔	✔	✔	✔	The only dedicated Macintosh Internet provider
IP	✔	✔	×	×	h/s/l	✔	✔	✔	✔	✔	✔	✔	The only dedicated Macintosh Internet provider
IP	✔	✔	✔	✔	s/l	✔	✔	✔	✔	✔	✔	×	Modem ratios: best 5:1, worst 10:1
IP	✔	✔	✔	✔	h	✔	✔	✔	✔	✔	✔	×	Modem ratios: best 5:1, worst 10:1
UUCP	✔	×	×	×	s/l	✔	×	×	×	×	✔	×	North east-based service provider
IP	✔	✔	✔	✔	s/l	✔	×	×	×	×	×	×	Packaged email gateways available
IP	✔	✔	✔	✔	s/l	✔	✔	✔	✔	✔	✔	✔	Customised home pages and security software and services available
UUCP	✔	×	×	✔	s/l	✔	×	✔	×	×	✔	×	Gateways to cc:Mail, MHS and other mail servers
IP	✔	×	×	×	s/l	✔	✔	✔	✔	✔	✔	✔	On-site hardware options also available
IP	×	✔	×	×	s/l	✔	✔	✔	✔	✔	✔	✔	One-way ISDN
IP	×	×	✔	×	s/l	✔	✔	✔	✔	✔	✔	✔	Prices inclusive of leased line and on-site router; hardware purchase available
IP	×	×	×	✔	s/l	✔	✔	✔	✔	✔	✔	✔	Lease or purchase plans available on hardware
BBS	✔	×	×	×	h/s	✔	✔	✔	×	×	×	×	Basic bulletin board service with email connection – dial 0908 234583
IP	✔	✔	✔	✔	h/s/l	✔	✔	✔	✔	✔	✔	✔	Also has full range of other services
IP/BBS	✔	×	✔	✔	h	✔	✔	✔	✔	×	✔	✔	Multi-user games
IP	✔	✔	✔	✔	h/s/l	✔	×	×	×	×	×	×	Gateways to cc:Mail, Microsoft, Lotus, SMTP; prices vary for business users
IP	✔	×	×	×	h/s	✔	✔	✔	✔	✔	✔	✔	Local calls within Brighton via Nynex Cablecomms
IP	×	×	×	×	h/s	×	×	×	×	×	×	×	£10 per Mb per month – Web authoring £150 daily
UUCP	✔	×	×	×	h/s	✔	×	✔	×	×	×	×	WinNET is an offline system – time charged £3.25 per hour + VAT
BBS	✔	×	×	×	h/s	✔	✔	✔	✔	✔	✔	✔	PC User Group is the home of the email-based Movie Database Server
IP	✔	×	×	×	s	✔	✔	✔	✔	✔	✔	✔	Entry level corporate access to the Internet
IP	×	×	✔	×	s/l	✔	✔	✔	✔	✔	✔	✔	64k digital leased line 64k, 24-hour/seven-day support – reduced rate in London
IP	✔	×	×	×	s	✔	✔	✔	✔	✔	×	×	Full Internet access for mobile and remote users – includes software
IP	×	×	✔	×	s/l	✔	✔	✔	✔	✔	✔	✔	Digital leased lines – 64k, 128k, 256k and higher – includes lease and installation
IP	✔	×	×	×	s	✔	✔	✔	✔	✔	✔	✔	Includes lease installation and support of on-site router and modem
IP	×	✔	×	×	l	✔	✔	✔	✔	✔	✔	✔	Corporate connection over digital dialup – includes lease and installation
IP	×	✔	✔	×	s/l	✔	✔	✔	✔	✔	✔	✔	£6 per Mb for up to 100Mb, then £3 per Mb; provides FTP use on worldserver
IP	×	✔	✔	×	l	✔	✔	✔	✔	✔	✔	✔	£10 per Mb for up to £100Mb, then £4 per Mb; WWW use on Worldserver
IP	×	×	✔	✔	s/l	×	×	×	×	×	×	×	Protocol translation between PAD and Telnet protocols
IP	×	×	✔	×	s/l	×	×	×	×	×	×	×	Installation, remote management, includes all configuration work
IP	×	✔	✔	×	l	✔	✔	✔	✔	✔	✔	✔	Provides an X.400 email address without needing to run X.400
IP	✔	×	✔	✔	h/s/l	✔	✔	×	✔	✔	✔	×	Local-call access via Dialplus throughout the UK
IP	✔	×	✔	×	h/s/l	✔	✔	✔	✔	✔	✔	✔	Especially skilled in Macintosh integration – easy to install start-up disk
IP	✔	✔	✔	×	h/e	✔	✔	✔	✔	✔	✔	×	Making Internet available to education community, excluding business users
BBS/IP	✔	×	×	×	h/s/l	✔	✔	✔	✔	✔	✔	✔	Specialised mail routing and hosting of WWW databases
IP	✔	×	×	×	h/s	✔	✔	✔	✔	✔	✔	✔	Local service for home/business users in Nottingham area
IP	✔	✔	×	×	h/s	✔	✔	✔	✔	✔	✔	✔	Reserved line option – V.34 modem, now includes free personal Web page
BBS	✔	✔	×	×	h/s	✔	×	✔	×	×	×	×	Reserved line option available; full member of CIX
BBS	✔	✔	×	×	h/s	✔	×	✔	×	×	×	×	7pm – 7am access, V.34 modems, personal Web pages; full member of CIX
IP	✔	×	×	×	h/s	✔	✔	✔	✔	✔	✔	✔	Service for Windows only, high-speed modems throughout
IP	✔	×	×	×	h/s/l	✔	✔	✔	✔	×	✔	✔	10 hours per month free; £2 per hour; easy to use, integrated, multi-tasking
IP	✔	✔	✔	×	h/s/l	✔	✔	✔	✔	✔	✔	✔	Full network connection; Exeter-based education specialist

diary

The INTERNET diary is Europe's noticeboard for events on and about the Internet. Send submissions for inclusion to diary.internet@computing.emap.co.uk. **Include the date, venue, price and contact information. Please be sure to include a phone number as well as an email address. Advice to readers: we cannot guarantee all these events will be worth the money asked... Attention events organisers: as part of our commitment to promoting the wider use of the Net, we at INTERNET are prepared to participate in planning, publicising and participating in any legal Net-related event. Contact Roger Green, publisher, at** rogerg@computing.emap.co.uk

Date	Event	Venue	Organiser	Contact	What's It All About?
25 April	Advertising, Selling, and Sponsorship	Kensington Palace Hotel London	The Hammond Organisation	Wendy Law 0181 943 9700 adnet@hammconf.demon.co.uk	Ad agencies, their clients and pundits tell what they know about doing business on the Internet. For sales and marketing professionals. £395.
28 April	Internet Business Briefing	Merrill Lynch Building London	Internet Publishing	Colin Farrow 0171 253 6934 internet@power.globalnews.com	Business-oriented event co-sponsored by BT, Sun and INTERNET magazine. £275.
3-5 May	Getting the Most Out of the Internet	Kensington Hilton Hotel London	Omnicom PPI	Sandy Maclean 01438 742424	Three-day event covering the Internet from TCP/IP technicalities to business applications. Featured presenter is Bill Thompson of Unipalm. £1,090.
4 May	The Daily Telegraph Internet Conference	Earls Court International Hotel, London	First Europe Comm	Adam Elgar 0171 404 0424 aelgar@firsteurop.win-uk.net	Sponsored by pioneering electronic edition of the Daily Telegraph, IBM and BT, in association with INTERNET magazine. The main theme is how businesses can use the Internet to boost sales and to decrease costs. £199.
16-18 May	Internet World International 95	Wembley Conference Centre, London	Learned Information	Michael Hislop 01865 730275 conferences@learned.co.uk	The third year of UK exhibition and conference. See INTERNET magazine there.
18 May	The Music Industry and the Internet	Cyberia London	Cyberia/ INTERNET magazine	Sally Matrick 0171 209 0982 sally@easynet.co.uk	How will the Internet revolutionise the buying and selling of music? Industry leaders debate. Invitation only.
23-24 May	Exploiting the Internet	The Forum Hotel London	IIR	Izi Muraben 0171 412 0141	Speakers include Digicash president David Chaum, together with representatives of BT, Nynex, Sun, PA Consulting and more. £695.
25 May	Internet For Your Business/ TCP/IP: Running a Successful Network	Ramada Hotel Reading	Integralis	Karen Liddell 01734 306060 k_liddell@integralis.co.uk	Two part event: detailed introduction to TCP/IP network protocols, together with strategic discussion of what the Internet can do in business.
31 May	Internet Business Briefing	Merrill Lynch Building London	Internet Publishing	Colin Farrow 0171 253 6934 internet@power.globalnews.com	Business-oriented event co-sponsored by BT, Sun and INTERNET magazine. £275.
5-6 June	Doing Business on the Internet	Forum Hotel London	Technology Transfer Institute	Technology Transfer Institute 0181 741 1922 100144.1553@compuserve.com	Ex-AT&T computer scientist and consultant Brian Nejmeh looks at potential business strategies and case studies. £695.
8-9 June	The First International Internet Advertising Festival	Cyberia London	Cyberia/ INTERNET magazine	Sally Matrick 0171 209 0982 sally@easynet.co.uk	The festival provides a showcase for emerging talents in advertising on the Internet and explore what makes for successful and acceptable advertising.
15 June	NetMedia 95	City University London	City University	Tony Wallace 0171 477 8233 m.s.wallace@city.ac.uk	Organised by one of the UK's top journalism schools to consider how the Internet will change the process of gathering and disseminating news and information.
15 June	The Live Poets Society	Cyberia London	Cyberia/ INTERNET magazine	Sally Matrick 0171 209 0982 sally@easynet.co.uk	British-based poets to rhyme online! Features the Urban Poets Society and a live hook-up to New York's Multimedia Centre. £5.
28 June	Internet Business Briefing	Merrill Lynch Building London	Internet Publishing	Colin Farrow 0171 253 6934 internet@power.globalnews.com	Business-oriented event co-sponsored by BT, Sun and INTERNET magazine. £275.
4-6 July	How to Market on the Internet	International Quality and Productivity Centre London		Adrian Watts 0181 332 1112	For brand and marketing managers, PR and sales personnel. £795.

Index to advertisers – May 1995

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Essential	25	01275 343199	sales@essential.co.uk
Fire Fox	11	0121 7033020	sales@firefox.co.uk
Harrier Softnet	44	01734 731181	sales@harrier.com
Integralis	51/86	01734 306060	h_alpe@integralis.co.uk
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Intercon	20	01734 513 111	sales@intercon.co.uk
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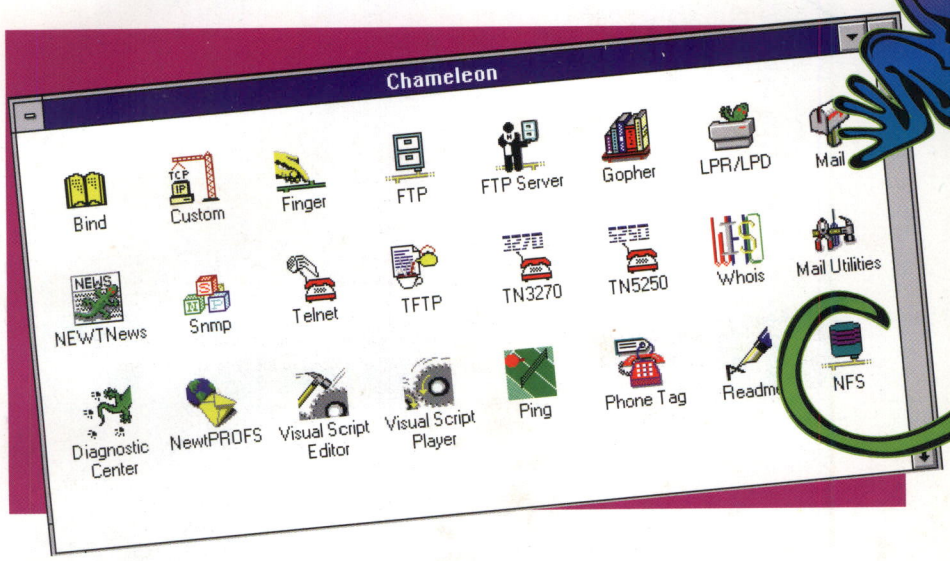
Network Your PC To The World With Chameleon.



APPLICATIONS INCLUDED:

- Terminal Emulation
  - Telnet: VT100, VT200, TVI, TN3270, TN5250
  - Visual Script Editor & Player
- File Transfer
  - FTP Client & Server
  - TFTP
- File & Printer Sharing
  - NFS Client & Server
  - LPR/LPD
- Electronic Mail
  - SMTP Mail with MIME
  - Phone Tag
  - IBM PROFS
  - POP2, POP3, SMTP
- Internet Access
  - Gopher
  - Newsreader
  - Whois
- Network Utilities
  - Ping
  - Finger
  - Diagnostic Center/Trace Agent
  - DNS Client & Server
- WinSock TCP/IP
  - 100% DLL TCP/IP Stack
  - Windows install and setup
  - LAN: Ethernet, Token Ring
  - Dialup: SLIP, CSLIP, PPP & ISDN

BEST VALUE.

Chameleon is a TCP/IP Windows software suite that offers more applications than any other product. It provides you with a comprehensive Windows solution for TCP/IP networking.

SEVEN INTEGRATED SOLUTION SUITES.

Chameleon includes seven integrated solution suites: terminal emulation, e-mail, file and printer sharing, remote access, network utilities, administration tools, and an easy point-and-click interface into the Internet.

SEAMLESS ACCESS TO OTHER HOST SYSTEMS.

Chameleon includes more applications that allow you to access information on Unix, mainframes, minicomputers, PC-based LANs and WANs, and the Internet.

OFFICE, HOME, AND REMOTE NETWORK ACCESS.

Connect to your network and the Internet via LAN or dialup access with one easy-to-use software package. Send and retrieve email, download files, print documents, login to remote hosts, and run client/server applications. Connect your PC to the world with Chameleon.

NetManage Chameleon includes WinSock TCP/IP and is 100% DLL. Chameleon requires only 6KB memory and installs in just 5 minutes.

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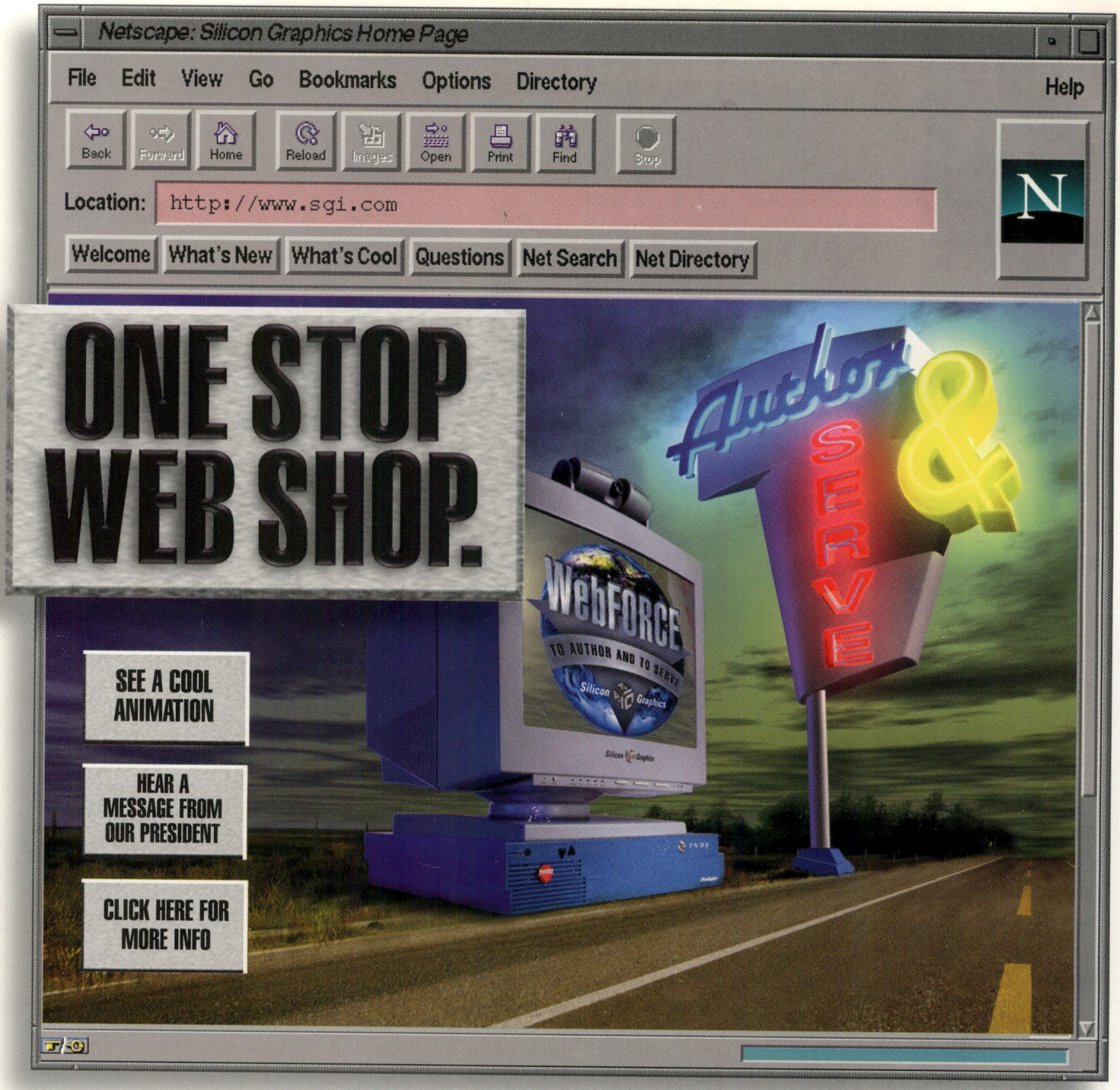

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